The Croonian Lectures

ON THE

PROGRESS OF DISCOVERY RELATING TO THE ORIGIN AND NATURE OF INFECTIOUS DISEASES.

Delivered at the Royal College of Physicians, London,

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LECTURE III.

THE purpose which I had in view in my last lecture was to show that, even in those instances in which the influence of microphytes in exciting processes of disease appears to be most direct, the proximate cause of the morbid action is always chemical. Our study of this subject brought before us the relation of the colourless corpuscles of the blood to the living and non-living causes of infection and in connexion therewith to the theory of Metchnikoff as to their protective function. As regards this theory it was shown that a remarkable antagonism exists between what might be called corpuscular activity as a sign of local inflammatory reaction and those infective agents which we have designed as phlogogenic, that intracellular incorporation as by no means the only resource which the organism possesses, and that just as the agents of phlogogenic infection are chemical, so it is by chemical means that they must be guarded against. We have to-day, in continuing our study of the struggle between the organism and disease, to pass from the phlogogenic to the specific infections, and with this view I must begin by asking your attention to certain terms which represent the two great divisions of the subject. These words are "mitigation" and "immunity."

PART. I. *Mitigation*.—For the word "mitigation" (in German *Abschwächung*) the word "attenuation," borrowed from M. Pasteur, has come to be very generally used. There is no objection to it, provided it is remembered that what is designated is, as we shall see immediately, not what M. Pasteur originally meant by attenuation. For "insusceptibility" we have also taken to the use of the word "immunity," which is inconvenient, because the states to which we have most frequently to refer are neither states of immunity nor of the contrary, but somewhere between the two. What is chiefly important to bear in mind is, that the word "attenuation" relates to a variable quality of the *virus*, the word "immunity" to a variable quality of the infected *organism*. These two qualities are respectively virulence and susceptibility. They are closely related to each other, and the bond which links them is the relation between the growing power and toxic activity of the microphyte and the vitality of the organism. And inasmuch as these two are antagonistic, the relation between them is one of contest—i.e., of struggle between organism and microphyte,—a contest in which preventive medicine strives to promote the victory of the organism either by strengthening its prophylactic power or by weakening the growing power of the microphyte. The first of these is accomplished when we confer on the organism diminished susceptibility or immunity; the second, when we deprive the microphyte of some of its virulence—i.e., we subject it to artificial conditions which mitigate it. In 1880 M Pasteur not only discovered that the virus or contagium of certain communicable diseases can be mitigated by artificial means, but was able to demonstrate in the most triumphant way that the virus so mitigated can be applied to the protection of animals valuable to man. In this great discovery M Pasteur took as his point of departure, not the infected organism, but the microphyte itself. He found that the micrococcus[1] which produces the so-called chicken cholera could, like the bacillus anthracis, be made to grow in bouillon, and the fresh cultures so obtained preserved their activity of growth and their morbific power for some time. But eventually the liquid, which was at first opalescent or even turbid from the number of "microbes" which it contained, became clearer and clearer. This process M. Pasteur called *attenuation*, recognising its resemblance to the change in fermenting liquors, to which that term has long been applied by brewers. He attributed it partly to the exhaustion of the nutrient material, partly to the accumulation in the liquid medium of products excreted by the microphytes contained in it. This, however, was not the main point of the discovery. The essential point was that *pari-passu* with the attenuation of the culture there was mitigation of its after-effect; for he found that whereas the fresh culture produces a characteristic disease which terminates fatally in twenty-four hours, a cultivation which has vegetated for several weeks gives rise to nothing more than a temporary disturbance of health. Pasteur further discovered that in animals inoculated with the mitigated virus of chicken cholera the micrococcus really multiplied in the body, which was thereby rendered so completely insusceptible that it could not be infected by any virus however active. The inference which M. Pasteur drew from his discovery of the attenuation of chicken cholera was that there is an intimate and essential relation between the virulence of a contagium and the vegetative vigour of the microphyte which produces it. The only way in which we can judge how far this is or is not the case is by the observation that the relation holds good by whatever means the attenuation—i.e., the diminution of organic activity—is brought about. In M. Pasteur's experiment it seemed to be produced by mere exhaustion of the soil; but the same result has been since attained in a variety of ways, of which I must shortly describe the most important.

One of the most generally applicable consists in cultivating the microphyte at a temperature which, although not incompatible with, is yet unfavourable to its growth. Applying this method to the bacillus anthracis, M. Pasteur found that the growth of this organism, vigorous at the temperature of the body, gradually diminishes in vigour as the temperature is raised to 42·5° C. (108° or 109° F.), and above this ceases. But in this case the most marked effect of the higher temperature is not attenuation, but diminished tendency to the formation of spores. Below 100° F. the constant habit of bacillus anthracis is to form spores wherever it has access to air or oxygen; at 109° F. it grows into a labyrinth of filaments, which, except that they form no spores, do not differ in appearance, or scarcely differ, from those grown at a lower temperature. To this change M. Pasteur also applied the term "attenuation," not meaning thereby that the filaments had undergone any diminution of size, but because he had found that a sporeless growth which has been cultivated for a length of time at 108° loses its disease-producing powers more or less completely. At first it fails in infecting more refractory animals, but is still potent enough for the susceptible. Soon these cease to react, and a point is reached at which the culture can neither be used to start a new crop in a nutrient medium to which it is transferred, nor to communicate the disease. As I daresay everyone present remembers, these were the facts which led M. Pasteur to his great practical discovery—the use of attenuated virus for protective "vaccination." If the mitigated condition of the anthrax bacillus which I have described could be made permanent, if crop on crop of virus of any desired degree of mitigation could be produced, it would be possible at once to use it on a large scale for the purpose of rendering animals insusceptible. Guided by the purely biological conception that those characteristics of plants and animals which are transmitted from individual to individual *through the germ* are less subject to subsequent modification—that is, have more permanency—than those which result from the action of its environment on crops propagated by continuous vegetation, Pasteur, although no biologist, was led to anticipate that, having to do with a microphyte which is capable of propagating itself by spores, the most effectual way of accomplishing his purpose would be to act on it, rather in its spore-producing, than (as in his first experiment) in its vegetating form or condition; and this he carried out by the simple expedient of transporting cultures which had been attenuated, as above described, by cultivation at 110° to another warm chamber in which the temperature was 98° F. At the lower temperature spores were produced which yielded crops of a permanently inferior degree of virulence.

A second method is that of Chauveau, which is based on the peculiar relation which exists between disease-producing microphytes—i.e., microphytes capable of inhabiting the living tissues of man or of the higher animals—and the quan

[1] Duclaux: Le Microbe et la Maladie. (Paris, 1886, p. 157.)

tity of oxygen supplied to them—that is, the tension of free oxygen in the medium which they inhabit. Those which are *par excellence* anærophytes require the feeblest dose which can be imagined, and die if they have too much. Others, like the bacillus anthracis, grow differently, according to the supply afforded to them; so that oxygen is clearly a powerful agent of modification. Even in the attenuation of the chicken cholera dumbbells M. Pasteur has shown that, in a certain sense, the determining cause of the modification is oxygen. For if this plant, which is an ærophyte, is freely exposed to air, with a limited supply of food, it vegetates vigorously, uses up its resources, and "attenuates" itself by exhaustion. Restrict both its supply of air and nutriment, it goes on growing at a vastly diminished rate, but (as M. Pasteur has shown) retains its virulence for an almost indefinite period. In this case the cause of the attenuation is exhaustion. Now it was long ago found by the late M. Paul Bert that bacillus anthracis, although it, as we have seen, rejoices in oxygen and produces spores most vigorously in free air, yet may have too much. It can actually be killed by subjecting it to an oxygen pressure of over thirteen atmospheres. Profiting by this discovery of Bert, and anticipating that if oxygen at high pressure kills, inferior pressure would "attenuate," M. Chauveau devised a method which, although technically more difficult to carry out than that of Pasteur, is quite as effectual in producing an attenuated virus. The difficulty was the mechanical one of constructing a cultivation chamber which could be charged with oxygen at any desired pressure. This surmounted, he was able at will, by the regulation of time and pressure, to bring about any desired degree of mitigation. In this way "vaccines" (in the peculiar sense in which this word is used by the Pasteur school) were obtained, which yielded what is called *immunité solide*, with this drawback only—that cultures attenuated by Chauveau's method are less permanently mitigated—i.e., more capable of regaining virulence by cultivation under favourable conditions than those of Pasteur. A third mode of attenuation which has been successfully employed in M. Pasteur's laboratory may be distinguished as the chemical method, for it consists in adding to the medium an ingredient of which the unfavourable influence is not strong enough when used in extremely small percentage to arrest the growth of the microphyte, but is yet capable of impairing its activity. For this purpose either the organic bodies which are recognised as disinfectants have been used, or recourse has been had to metallic salts, particularly potassium bichromate, the use of which is alleged to have yielded mitigated cultures as permanent as those of either of the other methods. By a long succession of investigations by Pasteur and Chauveau it was proved that by such different methods as the action of an unsuitable temperature, a too abundant supply of oxygen, and finally the introduction into the nutrient medium of such a body as potassium bichromate, such a deterioration or mitigation of a virus can be produced as to fit it for the purposes of what M. Pasteur called a "vaccine." The fact that each of these methods has been used on a large scale for the protection of cattle from anthrax is one of great practical importance; but irrespective of its utility it involves a fundamental principle relating to the etiology of infective diseases—namely, that there is an essential relation (though, as we shall see, a very complicated one) between the pathogenic property of a microphyte and its viability—between its vital activities and its power of producing disease. In the discussion of this subject we shall find that much obscurity has arisen from the confusion of the botanical (phytological) fact of attenuation with the pathological fact of mitigation. In all the researches relating to the subject which were published in France during the first half of the last decade, the two were assumed to be identical; for the *primâ facie* evidence of the connexion between vigour of growth on the one hand and virulence on the other was so strong and so striking that the cause came to be confounded with the effect. We shall have occasion as we proceed to see that it is not merely a logical necessity to separate the two ideas—attenuation and mitigation—in our minds, but that, in fact, the two qualities do not even vary in the same direction.

It is a remarkable fact that all the investigations to which I have hitherto referred were conducted in France. They were all made or inspired by one or other of the two great men whose names I have most frequently mentioned, Pasteur and Chauveau. I have now to ask you to cross the Rhine in order to learn how the critical mind of Germany has dealt with these brilliant discoveries. In Germany the Pasteurian doctrine that virulence varies in the same direction with vigour has not been accepted without limitations. German pathologists talk of "Abschwächung," but mean thereby not attenuation, but mitigation—i.e., diminution of virulence, not diminished vigour of growth. So far from attenuation being the necessary condition of mitigation, it is shown by Flügge[2] (one of the most accurate and acute of German bacteriologists) that as regards the less specific pathogenic microphytes it is just the contrary—viz., that the state of mitigation is not one of atrophy, but, on the contrary, of luxurious vegetation. There are some microphytes which, although they grow readily outside of the living body—i.e., in nutrient media—in doing so very rapidly lose their virulence. This appears to be the case, for example, with the chain-coccus of erysipelas, with the dumb-bell coccus of pneumonia, in both of which instances the microphyte, while doing the work of a saprophyte, grows vigorously, but loses the disease-producing power it before possessed. We can best conceive how this may be by attributing it to a sort of variability (in the Darwinian sense). We may suppose that the microphyte exists in two modifications: that in one it is capable of multiplying in the living body—i.e., is virulent—that in the other it grows more luxuriantly in nutrient media, but is unadapted to the conditions which exist in the organism. Or we may suppose, with Flügge, that under all conditions there are two symbiotic forms of the microphyte, of which one gets the better when the medium is non-living, the other when the organism has to multiply as best it can in the living body. Guided by these considerations, we might therefore arrange pathogenic microphytes in a series, placing at one end those which grow vigorously as saprophytes, but are also capable of multiplying in the organism under favouring conditions, as, e.g., staphylococcus, and near the other the bacillus of tubercle, which grows readily in the organism, with difficulty in nutritive media, but is always virulent in proportion to its vitality and to its activity of growth.[3]

In the next lecture we shall find that those microphytes which always display virulence in proportion to their vigour may be, in accordance with the accepted meaning of the term, designated as specific—i.e., that specific microphytes are those in respect of which attenuation and mitigation mean the same thing, whereas in the less specific virulence is a variable quality not necessarily associated with vigour of growth.

PART III. *Immunity.*—Every disease-producing microphyte must possess the power of multiplying under such conditions as prevail in the living body of man or other animals of similar organisation to man, and of causing therein poisonous products. It is this power which pathologists express by the term "virulence," which I must now try to define. The word may be used in a general way as the equivalent of morbific activity, but more strictly it means the relation between two sets of activities: those of the microphyte on the one hand, and those of the infected organism on the other, the influence by virtue of which the microphyte, with all its specific endowments, produces the morbid process. It is evident that this influence depends (1) on the power of the microphyte of growing in the living body; (2) on its power of developing chemical products which are toxic; and lastly, on the specific adaptation of the organism. It is to the last of these, under the term "susceptibility" and its contrary insusceptibility, or as it is now commonly called "immunity," that we have now to direct our attention. It is matter of common experience that although every disease-producing microphyte must possess the power of multiplying under

[2] Flügge: Studien über die Abschwächung virulenter Bakterien. (Zeitsch. f. Hygiene, vol. iv., p. 208.)

[3] In such a classification in line, bacillus anthracis would occupy an intermediate position. It grows vigorously both in dead nutritive media and in the living body. While much less constant pathogenically than the bacillus of tubercle, it is much more so than the streptococcus of erysipelas, but still admits of being permanently modified; for, as we have already seen, it is capable not only of vegetating, but of producing spores in a state of mitigated virulence. It is probable that the spore-producing mitigated cultivations obtained by Pasteur's method are also attenuated, for it was found by Chauveau that they had less power of resisting high temperatures (80° C.) than ordinary spores. As regards cultures which do not contain spores, it has been shown experimentally that "resistance," as measured by the dose of disinfectant required to kill the bacilli, is a very accurate criterion of virulence.

conditions which prevail in the living body of man or of animals similar to man in organisation, there is none which is equally virulent to all animals; or, in other words, that to each microphyte different animals have different susceptibility. As this word stands, not for a positive quality of the organism, but rather for the want of a power, which the animal body always possesses in very variable degree, of resisting or protecting itself from the invasion of contagia, it is in general more convenient to use a word which more expresses this protective power—viz., the word "immunity"—than one which suggests its absence. It is this *vis protectorix* which we have now to investigate; and with reference to it we have to inquire what conditions strengthen or weaken it when already possessed, and what produce or awaken it when absent. Anyone who considers what would happen if the golden cluster-coccus—the properties of which we had before us in a previous lecture—were allowed to spread in the organism without restraint is led to recognise that such a protective power must exist, and that in relation to the microphyte in question it must be exercised either in restraining its development or in destroying its vitality; and consequently that there must be something like a contest between the living body which is invaded and the invading enemy. To express this notion, which of late years has been present to many minds, the great botanist—whose loss we have so lately had to deplore—Naegeli used, many years ago, the word "*concurrenzvorgang*," comparing the battle between cells and microphytes with the struggle for existence between ferment organisms of different kinds in the same nutritive medium. The analogy is suggestive, but too incomplete to be useful, for what we have before us is not an encounter between opponents on an open arena, but an effort made by the organism as a whole to defend itself against invaders—to maintain its integrity and secure itself against attack. The contest theory, however, was of great value at the time it was promulgated; for when, twenty years ago, we first began to think of microphytes as causes of specific diseases, we were too apt to assume (and I willingly admit that I thought and said so myself) that all that was necessary for the production of a disease was the sowing of the seed, and that, if once the fatal germ found entrance, it would certainly—

> "Like pitted speck in garnered fruit,
> Rotting inwards slowly, moulder all."

Whether the number of seeds sown were one or myriad, it was thought that, although the question of catching or not catching an infection was, so far as external conditions are concerned, a matter of chance, inside the infected organism it was simply a question of cultivation and vegetative multiplication; as if the contagium, instead of having to make its way against innumerable hostile influences, were as certain to develop in the living organism as it would be in a flask of bouillon. It is not surprising that, even after Naegeli and others had drawn attention to this mistake, the importance of the defensive reaction of the organism was still underrated, for during the few years which immediately followed the splendid discoveries by which the *bacteriological* method of pathological research was brought into existence, these discoveries so engrossed the attention of all that it was for a time forgotten that their real interest and importance lay in the better knowledge they afforded, not of the microbes as such, but of their disease-producing powers, and of the concomitant and subsequent changes which their penetration into the economy of man produces.

Now it is entirely different. The vast accumulation of exact knowledge which has been acquired as to the morphological characters and physiological endowments of microbes is valued not for its own sake, but because it enables us to understand the reactions which they evoke in the living body—reactions of which some are beneficial and protective, though they are called into existence by abnormal conditions; while others are of such a nature as to indicate that the defences of the organism have been forced, that the invaders are in possession, and that disease has begun. Our subject to-day being immunity, it is with the first of these two classes of reactions exclusively that we have for the moment to concern ourselves. For what we mean by immunity is (as I shall endeavour to show as I go on) the power which the human or animal organism possesses of so resenting the presence of a disease producing microphytes as to protect itself from the disease.

We have already had before us in relation to the etiology of inflammation one of the explanations which has been given of the nature of this protective reaction, that which attributes it to the action of phagocytes. In its more special application to the question which occupies us to-day, it must, I think, be freely admitted that the general acceptance of the notion that protective reaction is the essence of immunity was very materially promoted by Metchnikoff's earlier publications, and by the experimental facts which he adduced therein, and that his more recent investigations have exercised a very remarkable influence in the same direction. But unfortunately we have to encounter phagocytosis, not as a result of experimental inquiry to be freely discussed on its merits, but as a dogma which has acquired extraordinary popularity among the large class of persons outside of the profession who take an intelligent interest in pathological questions without possessing any acquaintance with pathology. In my last lecture I drew attention to the difficulty of supposing that in the spread of traumatic erysipelas the invading myriads of streptococci can be effectually opposed by the leucocytes which follow in their rear. A similar difficulty exists as regards the more specific infections. If phagocytes are to be looked upon as policemen, whose business it is to watch over the safety of the organism, they ought to present themselves in force wherever and whenever there is danger. Now Metchnikoff's own observations, confirmed as well by his supporters as by his opponents, show that that is precisely what does *not* happen—i.e., that although it is perfectly true that leucocytes take part in the local reaction to which the entrance into the organism of many pathogenic microbes gives rise, they are like policemen in this respect, that they neither appear at the place nor at the time that they are wanted; for if we compare the reaction which a mitigated culture produces in the subcutaneous tissue of a healthy animal with that which is evoked by a virulent one, we find that the main point of difference is that, whereas in the former case, where there is no danger, our policemen assemble in force, they are either entirely absent or appear in scanty numbers where danger is imminent. Now I am well aware how, if Dr. Metchnikoff were here, he would explain this difficulty. He would say that the very fact of the absence of leucocytes is the reason why the microphyte is able to display its quality of virulence; that the toxical influence of very virulent microphytes is so intense that the leucocytes are promptly overpowered by it and unable to act; and in support of this explanation reference would be made to experiments which show that if the organism is "prepared" beforehand for the reception of the morbific microphyte by a previous localised poisoning, the result is the same as if the virulence of the microphyte were increased—i.e., that under these conditions a mitigated culture acts as if it were virulent. I have had the opportunity of seeing the striking experiments which have been made on this subject by Dr. Rüffer, and fully appreciate their value and importance. They afford conclusive evidence that an organism or part may be so weakened by the action on it of a poison that the power of protective reaction is abolished. But I think they fail to show either that protective reaction depends exclusively on leucocytes, or that, in swarming around bacilli derived from mitigated cultures, these corpuscles are actuated by a protective purpose. Even if we went so far as to admit leucocytes to be possessed of such a degree of consciousness as would enable them to judge of the degree of virulence of microphytes when in their immediate neighbourhood, the advocates of the protective agency of phagocytes would still be in a difficulty, from which, so far as I can see, there is no escape. The leucocytes which we meet with at a focus of irritation have, we most of us believe, migrated from the bloodvessels; but, as we know, there are some people who hold to the old doctrine of proliferation or tissue germination. Let us admit that they may originate either way. If leucocytes are emigrants, the theory involves the monstrous notion that a leucocyte, as it is being carried along by the blood stream, is so affected by the fact that virulent microphytes have been introduced into some part of the body, that of its own spontaneity it stops short, makes its way out into the normal tissue through normal bloodvessels, seizes on as many of the offenders as come within its reach, swallows and digests them, and returns whence it came. If they are not emigrants the difficulty which presents itself is quite as great, for it must be supposed that the dissemination of virus from the focus of infection is intercepted by the agency

of cells, which at the moment of invasion are as yet unborn, and which have to be brought into existence and activity to meet the emergency. If we turn from the general behaviour of phagocytes to the consideration of their behaviour in the particular processes of disease in which their protective action has been regarded as most efficacious, we shall again find evidence of protective purpose on their part equally wanting. Let us take the two examples of erysipelas and of relapsing fever.

Among the specific diseases in which the advocates of phagocytosis attribute importance to the protective action of leucocytes, the most remarkable is relapsing fever. In this disease, as everyone knows, spirilla are present in the blood in great numbers during the paroxysm, and disappear at the crisis. Metchnikoff,[4] availing himself of the fact (first discovered by Dr. Carter of Bombay) that this disease can be communicated to the quadrumana, for the purpose of thoroughly investigating it from the bacteriological side, has given us a full account of all that happens. In agreement with other observers, he has found that, although the spirilla are in constant relation with the blood leucocytes, they are never incorporated by them; and he has further made the important observation that when at the critical defervescence they disappear, they are deposited in the spleen and incorporated in its cells. Strange as it may appear, Metchnikoff gives no explanation of the indifference or phagocytic incapacity of the blood leucocytes in this case, but regards incorporation in the spleen cells as the cause of the defervescence. That it is a phenomenon of very great interest no one will dispute, but we can scarcely make up our minds to believe that it is the cause of an event already accomplished. Those who desire other examples of the same kind will find them in the notes which I hope to append to these lectures when published. The considerations I have brought before you are, I think, sufficient to justify us in not assigning the first place to phagocytosis in the mechanism of immunity. What I have now to do is to state what advances have been made by pathologists towards a more rational explanation. I will not occupy your time with proving what I conceive to be the most elementary fact relating to the subject—viz., that the organism (i.e., the living human or animal body) possesses means of arresting the development within itself of pathogenic microphytes and of eventually destroying them. I will also ask you to be prepared to admit that this function resides both in the blood and in the tissues—both in organised protoplasm and in intercellular liquid, and consequently that the inhibitory or destructive action is chemical. In accordance with this principle, we should expect that susceptibility would consist in the impairment or suspension of this function, and the acquirement of immunity in its development. Eight or ten years ago, the notion that immunity was due to chemical unfitness of the living body to serve as a nutritive medium was accepted with much less question than it is now. There were two opposed theories on the subject, commonly designated as that of exhaustion and that of retention. According to the exhaustion theory (that of Pasteur), it was thought that, just as in cultivation liquids bacteria undergo attenuation and eventually die if inadequately supplied with nutrient material, so in the body some special material necessary for the development of the microphyte, and consequently of the morbid process with which its growth is associated, is used up, and cannot be replaced. And so for want of this material the organism becomes unsusceptible. The other theory, that of retention, was founded on the fact that in nutrient media outside of the body, in which microphytes have lived for a long time, certain products of their vital chemical processes accumulate which are more or less colytic. And it was thought that in the living body a first attack might in like manner leave behind metabolic products (as they are called), which, taking their abode in the organism, might guard it against further attacks. In the crude form which it originally took, the hypothesis that the chemical compounds of known constitution, and particularly those belonging to the aromatic group which are known as products of sepsis, could produce such effects, became untenable so soon as it was proved that the colytic activity of those bodies is so feeble, and the quantity in which they are produced so small, that they cannot have any appreciable action. But the following out of the same idea—the idea, namely, that in the vegetation of pathogenous microphytes, products come into existence which are inimical to their own development—eventually led through a succession of steps in experimental research to the better knowledge which we now possess. The first of these steps was, I think, the discovery by Messrs. Salmon and Smith[5] that pigs can be "protected" against pig typhoid by inoculating them with the liquid in which the microphyte of that disease has been cultivated. The same year a similar discovery was made by the late Dr. Wooldridge respecting certain liquids in which the bacillus of anthrax had been grown. This was a year later succeeded by the discovery of Chamberland and Roux that in guinea-pigs immunity from splenic fever was acquired by injection into the peritoneal cavity, of cultures of bacillus anthracis, in which the microphyte had been effectually destroyed by heat. This method had the disadvantage that the high temperature which it was necessary to use in order to ensure the thorough devitalisation of the microbe was more or less destructive to the chemical products which it was desired to separate. The recognition of this drawback led to the use of a new expedient, or rather to the reapplication of an old one in a much-improved form—that of filtration under pressure through porcelain, by means of which it was found that a germ-free filtrate could be obtained which was much more active than the liquid obtained by heat devitalisation. As to what happens in the particular cases we have before us, it is sufficient for the moment to say that the protective action of the filtrate is not due to its direct action on the bacilli, for it has been shown experimentally that these organisms grow and multiply in the very liquids which serve as vaccines, and that consequently we must look for our explanation to its action on the infected organism rather than on the infecting microphyte. In accepting this inference, it is obvious that we at once abandon the very clue which guided us to it. For if it can be shown, as we shall see to be the case, that these chemical products of bacterial life, although they have no such power outside of the organism, are actually able to exercise it within the organism—i.e., when used as vaccines,—the only view which we can take of the matter is that when used as vaccines they so act on the organism as to awaken in it an inhibitory or destructive power which was before latent or too feeble. This being so, it naturally follows that the question to be next investigated is rather that of the nature of the reaction than of the microbe which causes it, and that the most important thing to do is to make a comparative investigation of the properties of the tissues and fluids of the body in protected and susceptible animals. It had been long known (specially from the research of Moritz Traube in 1874) that the blood possesses an extraordinary power of destroying septic organisms, but no one recognised its importance in relation to infection until, in 1887, von Fodor published his paper on the power of the blood to destroy pathogenic bacteria. Von Fodor showed, first, that bacillus anthracis when injected into the blood is destroyed with extraordinary rapidity, and he tested the process by a method to which we shall have to refer later. Then followed the much more elaborate research of Dr. Nuttall, made under Flügge's directions, which showed that the bacterium-killing power which von Fodor had assigned to the blood in its uncoagulated state, was possessed both by defibrinated blood and by serum, and was destroyed by subjecting it to a temperature of 55° C. This research was succeeded by another of equal importance also conducted in Flügge's laboratory. It was found that defibrinated blood could be diluted with sterilised salt solution without losing its antibiotic power, that it acted much more readily on some microphytes than on others, and particularly on the bacillus of typhoid, that it belongs as much to plasma as to serum, and is not destroyed by those products of peptic digestion of proteids which deprive blood of its coagulability. Finally, this subject was more fully investigated by Buchner, who confirmed and extended the results of his predecessors, while correcting some mistakes.[6] As it is out of the question to go into details, I must content myself with first giving you a short account of the method of testing the antibiotic power of blood, serum, or

[4] Metchnikoff: Phagocytenkampf beim Rückfalltyphus. (Virchow's Arch., vol. cix.)

[5] Experiments on the Production of Immunity by Hypodermic Injection of Sterilised Cultures. (Internat. Med. Congress, Washington, 1887. A preliminary communication had been made at an earlier period to the Biological Society of Washington.)

[6] Untersuchungen über die bakterienfeindlichen Wirkungen des Blutes. (Arch. f. Hygiene, vol. x., p. 85.)

any other animal liquid, and then stating the results in relation to the destruction of the bacillus of typhoid by serum. The method of testing consists in very thoroughly mixing with, say, 5 cc. of serum, a measured quantity, say 5 c.m.—i.e., one-hundredth part—of culture; then in taking the same quantity—5 c.m.—of the mixture and diluting it with warm gelatine solution, which is immediately poured out on a levelled glass plate, and subjected to such a temperature as will just admit of its gelatinising. In a couple of days the surface of the gelatine is beset with dots of opacity—colonies of typhoid. These can be counted by placing the plate over a plate of glass divided into squares, of which the area is some simple multiple of that of each square. In this way a numerical result is obtained which represents the original number of bacilli contained in the culture used, and thereby serves as a standard of comparison in other observations. The next step is to repeat the process with samples of the same liquid—i.e., serum—containing 1 per cent. of culture taken two hours and a half and five hours respectively after mixture, the result being that for every 100 microphytes originally existing not more than one or two are forthcoming after five hours in serum. By applying the same method of testing to serum and blood under other conditions, it is learnt that serum may be kept for a week or more at a low temperature without losing its antibiotic power; that this, moreover, is not diminished by freezing and thawing, even when several times repeated; whence it is abundantly evident that the property in question is not due to the stray corpuscles which serum always contains, for these are effectually killed by a single freezing. From a variety of circumstances Buchner is led to infer that the antibiotic power is associated with the proteid constituents of the serum. The fact first observed by Flügge and confirmed by Buchner, that the action is destroyed by a temperature of 55°, accords best with the properties of a proteid; so also does the observation that when serum of dog's blood is repeatedly frozen it divides by subsidence into two layers, of which the lower is active and the upper sterile. But the most decided indication of the albuminous nature of the agent is given by the effect of diffusion. If a plate of gelatine is soaked in serum, the gelatine swells and charges itself with water and salts of the blood, and it is found that the antibiotic power is entirely lost, both serum and diffusate being now favourable media for the growth of the bacillus.

New facts have been very recently brought to light which give the discovery of Von Fodor its true meaning. So far as I know, no pathologist supposed that the specific insusceptibility which, as we have seen, may be conferred on animals by so many different ways (and I have by no means mentioned all), is due to the general property possessed by the blood of destroying pathogenic microphytes. It was from the first understood that the whole value of Buchner's research consisted in this (and it was abundantly sufficient to give it great importance as a step in the progress of knowledge), that it brings before us in the clearest way the possible existence of a chemical agency in the living organism—an agency in which cells as such take no part—capable of destroying infective microphytes as rapidly and effectually as corrosive sublimate. For the proof of the existence of such an antibiotic power and of its embodiment in a chemical substance afforded good ground for the anticipation that the specific antibiotic power which was already believed to be resident in the organism of specifically protected animals would be in like manner chemical, and independent of the coöperation of living cells. Consequently the question came to be one of a specific chemical agency analogous to that proved to exist by Buchner's experiments. No sooner did the question present itself than it was seen that in each case the specific agent might act in one of two ways, or both at the same time, but in different degrees. It might act either antibiotically or antitoxically, or both at the same time. It might protect either by destroying or inhibiting the development of the microphyte, or by antagonising its chemical action. Now we have seen, as regards phlogogenic microphytes, that the weapon by which these exercise their power of injury is a chemical one; and from the experiments of M. Bouchard and Dr. Rüffer we learn that this same weapon is employed by the microphyte as a means of promoting its own victory in the struggle for existence. If, therefore, we can deprive it of this weapon, we not only make it harmless, but so impair its viability in the organism as to put a stop to its multiplication. In other words, the specific chemical agent by which the organism protects itself against a specific infective process is at the same time antibiotic and antitoxic; but of these two the antitoxic carries with it or includes the other. To disarm an assailant is equivalent in effect to killing him. Now it is known that certain infections are biotic, others toxic—i.e., that in some, rapid multiplication of the organism is the potent element, in others the production by a relatively small number of microphytes of a relatively intense toxic action. Of the former class, splenic fever, or a similar disease of pigs—pig erysipelas,—is the type of the latter tetanus. If, therefore, we assume that the specific alexeteric agent may possess the antibiotic and antitoxic properties in different proportions, according to the disease against which it serves as a defence, we should expect that the specific alexeteric against tetanus should be chiefly antitoxic, the specific alexeteric against swine erysipelas should be chiefly antibiotic. As regards tetanus, this has been proved to be so by the recent researches of Behring and Kitasato.[7] In tetanus it has been conclusively proved, as we shall see more fully in the next lecture, that the whole complex of symptoms produced by the tetanus bacillus also results from the introduction into the organism of an almost infinitesimal dose of the toxical product. It has further been proved (1) that it is possible, by a variety of methods which we have not time to enter on to-day, to induce in an animal a state of complete insusceptibility to this poison, so complete that it is not affected by doses several hundred times greater than are sufficient to kill an unprotected animal; (2) that the blood of such an unprotected animal has the power of antagonising the poison, though not of inhibiting the growth of the microphyte which produces it; and (3) that when introduced into the circulation of a susceptible animal it confers immunity upon it. These facts speak for themselves so plainly that they do not need comment, but it is essential that we should carefully guard against the assumption that the fact that in tetanus the protective agent is primarily antitoxic is also true as to other diseases. To prove that it is not so, let me ask your attention for a very few minutes to what has been ascertained as to the specific protective agent against the disease I have mentioned as swine erysipelas, or (in French) Rouget. Rouget is a disease which kills rather more than half of the animals which it attacks, and is characterised by its rapid progress and the spreading erythema which accompanies it. The bacillus which causes it was discovered by Loeffler in 1882, and so closely resembles that of another disease—"mouse septicæmia"—that they can scarcely be distinguished. It is found in great abundance in the blood of infected animals, and continues to multiply after death. It derives a special interest from the investigations of Pasteur, who discovered first that its virus could be mitigated, though not attenuated, by transmission through the body of the rabbit, and that it could be aggravated by transmission through the pigeon, and that pigs which have received the disease through the rabbit were protected against the pigeon virus. Rouget has a further importance as one of those in which it is alleged that the agency of leucocytes can be best observed as destroyers of bacilli. On this ground, as well as from the circumstance that the relation between virulence and morbid process which it occasions is quite as obvious—as, e.g., in splenic fever,—we take rouget as a disease specially adapted for the discussion of the mechanism of acquired immunity. In Rouget it has been proved that the multiplication of the bacilli in the blood of a susceptible animal is astonishingly rapid, but that the bacillus is as rapidly destroyed in an animal of the same species in which immunity has been conferred by Pasteur's method; in other words, the antibiotic property of the blood—i.e., its power of destroying morbific bacilli—is in that disease associated with the acquirement of immunity. It is well known that the protection afforded by Pasteur's method for rouget is not absolute—i.e., that a certain number of the vaccinated animals are attacked by the disease, and some die, and that for this reason it has not come into use like Pasteur's other modes of vaccination. Emmerich[8] succeeded better by adopting a different plan, which consists in first introducing per venas a very small dose of a virulent culture and then ten days later injecting

[7] Ueber das Zustandekommen der Diphtherie-Immunität bei Thieren. (Deutsche Med. Wochenschrift, 1890, p. 1113.)

[8] Emmerich und Mastbaum: Die Ursache der Immunität (Archiv f. Hygiene, vol. xii., 1091, p. 275.)

a full dose. As the second injection produced no symptoms it might be regarded as absolute immunity, but in order to insure its thoroughness, larger quantities were injected subsequently. In this way a number of healthy rabbits were prepared, the whole process requiring about four weeks for its completion, and the next step was to compare them as regards the antibiotic properties of their blood and tissues with normal rabbits. The gist of the experiments is that whereas in the susceptible animal the effect of introducing half a centimeter is to produce a process in which the blood is crowded with microphytes, and they are also found in the tissue, the bacilli introduced into the circulation of the protected animal have almost disappeared in three hours, and are absolutely destroyed in less than eight hours.

Having got thus far, having proved that what I may venture to call the antibiotic state can be produced in an animal by a process of gradual habituation, it was evident that to Emmerich, as regards the particular disease and the particular animal under observation, he had the rest of the problem in his hands. It was true that the antibiotic effect was produced in the organism—that the bacilli were effectually killed, both in the blood and tissue of the immune animal, whereas they multiplied in the susceptible—but it could not as yet be positively stated whether the agent by which immunity was conferred was an essential product of their metabolism, such as they might be expected to manufacture in any nutrient medium adapted to their growth, or a result of their action on the living tissues of the infected body. And the way to do this was evidently not to operate on the bacillus, but on the blood and the tissues of the immunised rabbit, in which two facts of great moment were already known—first, that no bacilli were forthcoming; and, secondly, that the antibiotic property resided in them. This purpose was accomplished by the method of filtration through porcelain, to the immense value of which as a method of pathological research I have already adverted. By subjecting the previously comminuted tissues of an immunised rabbit to extreme pressure, and collecting the expressed juice in sterilised flasks, and filtering through porcelain, a liquid is obtained free from all structural elements, which, when injected into the body of a normal—that is, susceptible—rabbit, produces no disturbance of any function, but confers upon it an *antibiotic state*, so that if a sufficient quantity of the liquid is injected immediately after a fatal dose of the virulent culture of rouget the development of the disease is averted. What happens is best shown by comparing the temperature curve in such an animal with the curve which would have been obtained had the virulent action of the bacillus—i.e., the development of the disease—been left to itself. It is obvious that in the curve marked I. in the figure there are indications of a slight febrile reaction which immediately follows the injection, whereas in the other the body temperature of the infected animal culminates on the fifth day with a temperature of 100°. On testing the condition of the blood by plate cultures, it was found that, as in the immune animal, there was no multiplication of bacilli. In other experiments, instead of introducing the virus and its antidote simultaneously, the injection of the former (the virus) was deferred for twenty-four hours. The result was much the same, showing that the effect continues for some time after the material itself has been discharged from the system, and this inference was confirmed by observing that even after eleven days the effect of a fatal dose was much mitigated, for the disease ran a favourable course, ending in recovery. These experiments show that the introduction of a soluble product into the organism of an animal susceptible to rouget restrains or inhibits the development in it of the bacillus. A few years ago this would have been attributed (in accordance with the retention theory) to the direct action of the product on the microphyte, but this we can no longer admit now that we know that in several instances pathogenic microphytes grow and multiply without check in the bodies of infected animals, and that this growth continues after death, until the pathogenic microphyte is overpowered by saprophytes. Consequently we are led to adopt the only possible alternative—viz., that although the agent by which the pathogenic microphyte is destroyed or its development arrested is a chemical one, it is not identical with or contained in the substance which has been introduced, but is what in physiology we call a metabolic product.

We have learned to-day that the organism of man and of the higher animals possesses a self-protecting power, which it can exercise either in arresting the development of the living excitors of disease or in counteracting their poisonous products,—in other words, that it is endowed not only with a general *vis protectrix*, but that it is able to bring into existence specific vital activities by which it guards itself against the specific infections to which it is exposed, and (what is practically most important) that these activities have chemical embodiments which are within the reach of experimental investigation. To have learnt this is to have entered on the beginning of a new progress—to have turned over a new leaf in Pathology and in Preventive Medicine. It seems to me to require no prophetic power to foresee that we are just now on the threshold of discoveries such as will surpass in their practical value, no less than in their scientific importance, all that have preceded and led up to them. Happy are they who are young enough to hope to participate in the realisation of so encouraging a prospect!

Errata.—In the second lecture, p. 1084, col. 2, line 35, for "lymph salt," read lymph *sac*; in p. 1085, col. 1, line 25, for the words "it is a token that the" read *it is to them that the*.

ABSTRACT OF A

Clinical Lecture

ON THE

TREATMENT OF STRANGULATED AND NON-STRANGULATED HERNIA BY TORSION OF THE SAC.

Delivered in May, 1891,

BY RICHARD DAVY, F.R.S.E.,

SURGEON TO THE WESTMINSTER HOSPITAL.

GENTLEMEN,—I have recently had three cases of hernia in the wards: two of them were young men, who submitted to operation for non-strangulated herniæ; and one was a middle-aged woman, the subject of a strangulated inguinal hernia. Let me say a few words on the strangulated hernia first, and read the patient's history, which has been carefully kept by my dresser, Mr. Ferdinand Baptiste Marin.

Margaret C——, aged fifty-two, was admitted into Westminster Hospital on March 3rd, 1891. Two days before admission the woman was discharged from the medical wards, where she had been under treatment for ascites and albuminuria, and had submitted twice to paracentesis. On the day of discharge (March 1st) she noticed for the first time that she had a swelling in her groin. She was found to have a right inguinal hernia, reducible, small, and painless, and was directed to attend the out-patient department. She, however, went home, and commenced to shift and rearrange her furniture. The next day she experienced great pain in the tumour, which increased so towards night that she had no sleep. Her bowels had been opened during the day. On the 3rd the pain was so intense that she attended the out-patient department for relief, and saw Mr. Bond, who found that she had a small right inguinal hernia, which was very tense, tender, painful, irreducible, and strangulated. She was immediately admitted, and shortly after vomited, the vomited matter being dark green and having no fæcal odour. On the same day no motion or flatus was passed. It was decided that she should be immediately operated upon. At 3 P.M. this was accordingly carried out. An incision having been made over the sac in the long axis of the tumour, and the sac having been opened, the contained fluid was found to be clear and of a greenish colour. The strangulated gut was of a deep port-wine colour, smooth, and slipped back into the abdomen as soon as the internal ring was notched. The sac was twisted, and affixed to the remnants of the ring. The patient bore the operation well.—March 4th: The temperature rose at midnight to 101·6°. The woman has no pain or tenderness. She slept well. The bowels are confined. Ten minims of tincture of opium had been administered. Pulse 100, regular. Urine: sp. gr. 1025; acid; no albumen. Has a troublesome cough.—5th: Patient feels better; condition the same. Ten minims of tincture of opium has been given twice during the day.—7th: Patient has great desire to defecate. Administered a half-grain morphia suppository. The bowels,

however, were opened at 6 P.M.; motion loose; no blood; no pain. To take ten minims of tincture of opium. The temperature continues raised (100°—101°). Pulse 104. Urine passed naturally; acid, sp. gr. 1020; no albumen. Cough is better.—8th: Patient better. Bowels open twice. No pain.—10th: Feels better and stronger. Bowels open once. Sleeps well. Motions natural. Had some fish. There is only a slight discharge from the wound.—15th: The wound has almost healed. Patient feels well. Temperature normal. No pain or tenderness.—17th: Wound healed.—20th: Patient got up for the first time since admission.—30th: She sits up every day, and expresses herself as feeling quite well.—April 2nd: Discharged.

In all my cases since February, 1887, I have practised torsion of the sac of hernia (a plan suggested by that excellent surgeon, Mr. C. B. Ball, of Dublin). He published a paper in the *British Medical Journal* (Dec. 10th, 1887), and gave full details of the procedure. In 1889 Mr. Ball states: "Since my paper I have operated three times for radical cure of hernia by torsion. I have been able to keep all three cases under observation up to the present, and so far all have been completely satisfactory. In only one is a truss now worn (a patient operated upon six weeks ago), and I think he might with safety now discard it. Some of the cases operated upon were of very large herniæ, but in none has there been the slightest recurrence. I now perform the operation as follows: First, carefully dissect out the sac (of course, if the hernia is of the congenital form this is impossible, and in these cases I have somewhat modified the recommendation of Buchanan by dividing the sac, leaving the lower portion, and dealing with the upper as with the entire sac in the acquired variety; I have sutured up the lower portion to form a tunica vaginalis; but as I found it followed by acute hydrocele, and in one case by suppuration, I prefer now to drain it). As soon as the sac has been completely isolated and its neck freed, I grasp it in a broad torsion forceps, draw it down, and twist until a decided sense of resistance is felt. An assistant now holds the forceps, keeping up the twist, while a strong carbolised catgut ligature is tied tightly and as high as possible up the neck. Two iodoform silk sutures are now passed, entering the skin about an inch from the wound margin, passing through the pillar of the external ring &c., the twisted neck, *in front of the catgut ligature*, through the other pillar, and out through the skin on the other side. The sac is now cut away immediately in front of the silk sutures, and the latter are closed over broad silver suture plates to protect the skin. A drainage-tube is brought out through a puncture at the most dependent portion of the scrotum. I dress now with sublimated wood wool wadding. The silk sutures are left in until there is a little irritation along their track, in order to render consolidation more complete. Their position through the stump in front of the catgut ligature effectually prevents the risk of the former slipping and retraction of the cut sac into the abdominal cavity, and they entirely prevent untwisting. Judging by analogy in the treatment of the pedicle in ovariotomy, I should hesitate to retain any portion of the sac outside the skin incision." This statement is evidently the pith of Mr. C. B. Ball's experience, and his views are expressed in very clear language.

I have availed myself of the plan of torsion in twenty cases; but only three of these have been operations of *convenience*; seventeen have been cases of ordinary strangulated herniæ in which an operation became a matter of *necessity*. Let me emphasise the importance of this distinction between operations of convenience and necessity. A patient with a strangulated hernia is within measurable distance of the next world, and can only be saved by prompt and decisive action. The surgeon in these cases does not even ask the consent of the friends, not yet the assent of the patient; he acts verily in a high-handed manner, with the full consciousness that knowledge is power; but in the case of those who solicit the so-called radical cure for hernia in order to avoid the necessity of wearing a truss when qualifying for some office, you cannot be too candid in your statements, too guarded in your opinion, or too exacting in having the fullest consent of the patient and friends. Let me sketch the history of two young men, aged eighteen and twenty respectively. They both wished to serve their Queen and country by enlisting into the army; they were both rejected on account of their having inguinal hernia. They both applied for assistance at the Westminster Hospital, and came in within ten days of each other, Jan. 24th and Feb. 3rd, 1891. The established facts in connexion with the operation for radical cure were put before them; the danger of any operation; its probable failure; and their unfitness in the particular form of rupture for their withstanding the trials of campaigning. It was all no good; they were "men convinced against their will," and they both told me they would have the operation done elsewhere if I declined to operate. Whereupon I operated upon both of them in the same way as described by Ball; and they left the hospital on March 12th and March 16th, both wearing a truss up to the day of their again presenting themselves for medical examination at St. George's Barracks. They both passed—one into the 20th Regiment, the other into the Hussars. They both came back to Westminster Hospital, so pleased that (as they put it) "they had diddled the doctor." Of course it is impossible for me to say now if they are cured or not.

All this sort of thing reminds me forcibly of shaky students coaching for an examination, and congratulating themselves on having got through by the skin of their teeth. Are such qualified men an advantage to their patients? and are such patched-up hernia recruits useful additions to the army? I think that all such have mistaken their calling. It is said that the army is glad to catch all it can, and that these two young fellows are worthy. For my own part, I consider that no more severe trial can be put upon any obliterated sac of a hernia, or any weak abdominal wall, than the necessary rough riding course of a young soldier. A man's capability or not of riding outside an omnibus with comfort has been quoted as a test of vesical calculus. The rough exercises of the riding school will soon demonstrate the radicalism of the cure for hernia or its inutility.

The usual course of operating which I now practise is as follows, and it is applicable in the majority of uncomplicated cases. First ascertain the site at which the hernia leaves the abdomen; make a cut through the skin from two to three inches long a little above and over this point in a direction parallel to the axis of the rupture; carefully ligature or twist all bleeding vessels *en route*, until you find it necessary to use the director for security. For the division of the thin coverings of the sac I prefer to use scissors on a director. The surgeon becomes a "director of a director," and his assistant divides the structures held up on the guide with the scissors upwards and downwards the whole course of the wound. On reaching the super-peritoneal sac, you ascertain whether or not the bowel can be returned without opening it; well and good if you can. Treat the sac by torsion and fixture. If you must open the sac, do so in the same line as your original cut, and carefully examine its contents. The omentum must generally be tied by transfixion and cut off, the bowel returned with consummate care and gentleness, and the sac transfixed with a carbolised catgut or silver ligature, which is tied right and left, then twisted, and then fixed to the right and left portions of the original wounded parts. The nick in the strangulating neck of the sac is made with a straight hernia knife on a director upwards and inwards for inguinal, inwards for femoral.

The accompanying table is a record of my cases treated by torsion.

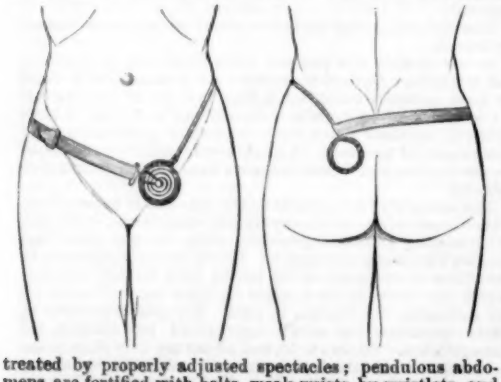
In my opinion the patients have come very well out of the scramble. But not so torsion; for I cannot fairly claim to have radically cured more than five out of the twenty. At best only seven out of the twenty can be cured. I have followed up these cases with ferret-like pertinacity, and can vouch for accuracy. I shall await therefore the experience of other and better surgeons than myself with much interest.

The mortality for hernia is small—one out of twenty dies. This record bears testimony to the cleanliness, care, and good nursing practised generally after the operation, and notably its early performance. I have learnt subsequently that Case 6, operated on by me in 1886 for left femoral hernia was operated upon again for right femoral hernia by my colleague, Mr. Cowell, in 1890. She died of phthisis in 1890; doubtless her cough aggravated her chances for strangulation. Cases 16, 18, and 19 are my only three cases (selected for convenience) who have submitted to an operation for radical cure by torsion. No. 16 is quite well; possibly Nos. 18 and 19 may be. All the rest, seventeen in number, have been ordinary cases of strangulated hernia as are met with in hospital practice.

Let me draw your attention to the great difficulty generally experienced in reducing large volumes of gut. I remember

well a case at Guy's, under the care of the late Mr. Cooper Forster, where the original hernia was as large as a stable bucket; the strangulation was relieved, but no manipulation could effect reduction of the mass. I have twice punctured the intestine to let out fluid and gas, and I do so by a valvular puncture, made, first, an inch or so through the layers of the mesentery; and then, secondly, through the wall of the bowel. This procedure lessens the danger of fæcal extravasation into the general peritoneal cavity, and effects its purpose equally as well as the more ordinary puncture directly through the intestinal wall.

Well, gentlemen, you have a great number of operations to select from in aiming at a radical cure of hernia. Some are very complicated. This method of torsion is extremely easy. I dislike complicated operations. It has been said that two of the most complicated operations in surgery are Wood's operation for radical cure and Lister's operation for resection of the wrist-joint. These two surgeons have, no doubt, carried out successfully their own methods; but I very much doubt if many other surgeons have, by reason of the intricacy of detail, and the parts concerned in disease being by no means anatomical or diagrammatic. Your object is to close an open gate, to repair a weak fence, and to prevent the straying of parts constantly in motion through these run-down structures. Undoubtedly the most natural and usual way of preventing the descent of bowel or omentum is by wearing a good truss; and so by artificial aid to strengthen the abdominal walls and close the patent ring. The objections raised by patients against the wearing of trusses seem to be much exaggerated, and some prefer the risk of a doubtful cure by operation to the certain simplicity of relief by an artificial support; almost invariably I recommend the latter treatment. A really comfortable truss is no discomfort, or at any rate is the least of many evils. Inefficient sight is



treated by properly adjusted spectacles; pendulous abdomens are fortified with belts, weak wrists by wristlets, and so on; why not weak local abdominal spots with trusses? The trade is much to blame in this matter; but the sufferers from hernia more so; they enter a shop and order a truss as if they were buying an article of ready-made clothing. Each case really demands special surgical knowledge; and each hernia requires more or less a special instrument, and in this care of selection and application of trusses lies the whole secret of efficiency. In passing, let me bring before your notice an ingenious and in many respects novel form of truss—the invention of Mr. L. Newton Smith of Toronto (see engraving). This spring truss is made of one piece of nickel silver; it is light and elegant, and its cost does not exceed that of other trusses made in Great Britain. The imperial silver truss, from its adaptability, peculiarity of shape, and mode of application, adjusts itself to every posture of the body without displacement, and is worn with comfort. Some of its advantages seem to be its simplicity, durability, coolness, and capability of withstanding the results of moisture and perspiration. The hips of the patient are free, and the pressure-force imitates very closely the retention of a hernia by the hand of the patient, upwards and obliquely backwards.[1] So far as my own experience goes, I have been satisfied with its results on my own clients.

In conclusion, advise your patients with hernia to have two trusses well made, in case of one being broken or needing repair; let it be put on in the morning before leaving, and taken off in the evening after going to bed. Let them avoid all straining work, and lie on their backs with the truss off if it gives any great pain. Be a neutral adviser on the subject of radical cure, but aim at a radical cure in any case of strangulated hernia by operation. Those patients who wear proper trusses do not become the subjects of strangulated hernia, but pass their lives comfortably without any special surgical interference in the way of operation.

Wolbeck-street, W.

No.	Sex.	Age.	Occupation.	Nature of hernia.	Operation by torsion.	Result and remarks.
1	M.	46	Carpenter.	Right inguinal.	February 19th, 1885.	Recovery. Slow healing and cure.
2	M.	27 days	—	Right inguinal.	April 5th, 1885.	Child seen February, 1886. Wears a truss.
3	M.	30	Postman.	Right inguinal.	January 27th, 1886.	Recovery. No return of hernia.
4	F.	52	Charwoman.	Left inguinal.	February 21st, 1886.	Recovery. Hernia larger than ever.
5	M.	48	Wheelwright.	Left inguinal.	March 26th, 1886.	Recovery. Sloughing around cord.
6	F.	66	Housewife.	Left femoral.	December 4th, 1886.	Recovery. Wears a truss.
7	M.	67	Labourer.	Left femoral.	February 22nd, 1887.	Recovery. Wears a truss.
8	M.	34	Groom.	Congenital right inguinal.	February 24th, 1887.	Recovery. No return of hernia.
9	F.	41	Domestic.	Right femoral.	April 9th, 1887.	Recovery. Wears a truss.
10	F.	51	Married.	Right femoral.	July 3rd, 1887.	Death on July 4th from exhaustion. Bowel black.
11	F.	48	Housework.	Umbilical.	April 1st, 1888.	Recovery. Wears a belt.
12	M.	74	Saw-cutter.	Right inguinal.	July 12th, 1888.	Recovery. Fæcal fistula closed. Truss.
13	F.	54	Domestic.	Left femoral.	August 17th, 1888.	Recovery. Wears a truss.
14	M.	12	Choir boy.	Right inguinal.	May 25th, 1889.	Recovery. No return of hernia.
15	M.	24	Cabman.	Left inguinal.	March 26th, 1889.	Recovery. Wears a truss.
16	M.	36	Excavator.	Right inguinal.	May 27th, 1889.	Recovery. No return of hernia.
17	F.	50	Tailoress.	Recurrent umbilical.	July 16th, 1890.	Recovery. Wears a belt.
18	M.	18	Soldier.	Right inguinal.	January 29th, 1891.	Recovery. No truss.
19	M.	20	Soldier.	Right inguinal.	February 8th, 1891.	Recovery. No truss.
20	F.	52	Housekeeper.	Right inguinal.	March 3rd, 1891.	Recovery. Wears a truss.

An Address

ON THE

PATHOLOGY OF INFLUENZA, WITH SPECIAL REFERENCE TO ITS NEUROTIC CHARACTER.

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(Concluded from page 1093.)

THE headache which, next to the fever, is the most common symptom of the nervous form of grip, is in the majority of instances owing to congestion of the membranes of the brain and of the sensitive portions of the cerebral substance, which is in its turn consequent upon irritation of the vaso-constrictor centre in the bulb. When the headache is particularly intense and prolonged, it may be due to inflammation of the parts just mentioned. In Bristowe's cases of cerebral abscess which I have already mentioned, constant and intense headache, which lasted throughout the illness, was one of the principal symptoms. In other cases it arises from catarrh of the frontal sinuses. The backache and pain in the body and the limbs, which are also very frequent, may be traced to congestion or inflammation of the spinal

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membranes and the sensitive portion of the cord, as well as of certain peripheral spinal nerves.

Delirium is frequent in the febrile stage of influenza, and sometimes consequent upon the headache where this is severe. The patient is then literally driven mad with pain. In other cases it is the chief symptom which overshadows all the other signs of the attack. The delirium and insomnia are owing to congestion of the cortex, whereby the grey matter is irritated; while somnolence and coma, which also occur rather frequently, must be referred to a more severe degree of congestion, whereby the brain matter is actually compressed. Where the congestion affects the central convolutions of the motor area of the cortex, we meet with convulsions or paralysis, according to the more or less severe degree of the hyperæmia. Other symptoms of the feverish attack, such as subjective flashes of light, noises in the head, giddiness, deafness, loss of smell and taste, numbness of the head and face &c., may also be accounted for by congestion of the different nerves involved, all of them, however, being in the last instance dependent upon the central event—congestion of the vaso-constrictor centre of the bulb.

Cardiac and respiratory crises, characterised by vertigo, fainting fits, syncope, dyspnœa &c., which are not justified or explained by stethoscopic signs, point clearly to irritation and subsequent depression in the cardiac and respiratory centres in the bulb.

2. *Catarrhal form of influenza.*—The peculiar feature of this variety is that we have, in addition to the fever &c., symptoms of catarrh affecting more or less the whole extent of the mucous membrane of the respiratory tract. The grippal catarrh of this tract differs considerably from ordinary catarrh affecting the same membranes. In grip the inflammation extends to all parts, including the maxillary sinuses, the Eustachian tube, the tympanic cavity, &c., which does not occur in ordinary catarrh. In grip the serous or sero-sanguinolent flow from the naso-pharynx is more profuse. There may be also some or all of the symptoms of the nervous variety, with retching and vomiting, while the expression of the face denotes a greater degree of suffering than exists in ordinary catarrh.

The bronchitis of grip is also of a peculiar character, differing from ordinary bronchitis. It is generally very rapidly developed, and accompanied by a peculiar pain behind the sternum, and difficulty of breathing which is out of proportion to the physical signs. The cough is more distressing and obstinate, and the expectoration eventually more profuse than in ordinary bronchitis. These differences are also strikingly marked in the peculiar form of pneumonia which is apt to accompany or to follow grip. It is true that ordinary croupous pneumonia, as produced by Fraenkel's diplococcus, occurs in these cases, but this I believe to be only indirectly connected with grip. The system, being enfeebled by the invasion of an irritant poison, loses its power of resistance, and offers a favourable soil for the development of those bacteria which are always present in the fluids of the mouth, ready to invade the lungs when the entrance door is no longer barred to them. There is, however, a form of broncho-pneumonia peculiar to grip in which it is not so much Fraenkel's diplococcus as the streptococcus pyogenes and the staphylococcus aureus which infest the sputum, and where the symptoms are of a much more insidious character. Want of time prevents me from fully entering into these differences, and I will therefore only say that in order to account for them we are driven to assume a different etiological factor for these peculiar forms of catarrh and broncho-pneumonia.

The nutrition and secretion of the upper portion of the air-passages are under the influence of the fifth pair of cranial nerves, experimental division of which causes keratitis, conjunctivitis, ulceration of the mouth, lips, tongue, and hard palate, and other symptoms. Irritation of this nerve, as caused by inflammation or the pressure of a tumour, gives, however, rise to a great many other symptoms, which I have fully described in a paper read before the Royal Medical and Chirurgical Society in 1868, and published in its Transactions for 1869. Amongst these symptoms are hypersecretion of conjunctival mucus, profuse catarrh of the Schneiderian membrane, leading to thick scabs filling up the nostrils, tendency to nasal hæmorrhage, hypersecretion of mucus in the mouth to such an extent that the patient is obliged to have a pocket-handkerchief constantly applied to it in order to prevent the liquid from running down the chin, while the lips appeared covered with froth, such as we see it in a patient who is in an epileptic fit. There is also ulceration of the tongue and mouth, and tendency to hæmorrhage from the gums. Irritation of the fifth nerve is therefore seen to give rise to catarrh of all the mucous membranes supplied by it; and I consider that the catarrh of the upper portion of the air-passages which we see in the catarrhal form of grip is owing to irritation of that nerve by the grippo-toxine. If time permitted, I should like to speak, in connexion with this, of other forms of inflammation, such as glossitis, parotitis, acute glaucoma, and more especially of that peculiar form of keratitis which is seen in grip. The observations of Galezowski and others on this latter inflammation show most plainly the neurotic origin of it, as its symptoms differ considerably from other forms of keratitis, and are almost identical with those described many years ago by Senftleben as occurring after section of the fifth nerve. The keratitis peculiar to grip has also been found to require an entirely different treatment from that of other forms of keratitis. In the same way as the nutrition and secretion of the upper portion of the air-passages are under the influence of the fifth nerve, the nutrition and secretion of the lower portion of the tract, from the pharynx down to the lungs, are under the control of the vago-accessory nerves, which, like the fifth, have numerous anastomoses with the sympathetic throughout their course. The peculiar hacking cough which occurs in the catarrhal form of grip I would more especially ascribe to congestion or inflammation of the cough centre in the bulb, which is connected with the larynx by the superior laryngeal nerve.

There are few points in experimental physiology which have been so carefully studied, ever since the times of Valsalva and Morgagni down to the present day, as the lung affection following the section of both vago-accessory nerves. Suffice it to say that the consequence of this proceeding in all animals, birds alone excepted, is broncho-pneumonia. Paralysis of these nerves renders the glottis unable to close, and thus to separate the digestive from the respiratory tract; so that not only particles of food, but also, what is even more dangerous, the fluids of the mouth, which always contain pathogenous bacteria, enter the larynx and the lungs, and there act as excitors of inflammation. Death in three or four days is the inevitable result of the operation in most animals; but the actual cause of death is still somewhat doubtful. It cannot well be the broncho-pneumonia which kills, for birds die after the operation, although no lung affection occurs in them; and it seems most probable that death is owing to a variety of troubles caused by the removal of so important and complex a nervous mechanism. One of the principal of these troubles is gradual exhaustion of the respiratory centre in the bulb, as shown by a total change in the normal type of respiration. This exhaustion of the bulb is what actually occurs in the later stages of the broncho-pneumonia of grip when the patient is unable to rally. Birds die after vagotomy in eight or ten days with the symptoms of inanition, and the heart, liver, stomach, and muscles are then found to have undergone fatty degeneration, showing plainly the influence of the pneumogastric nerve on the nutrition of those parts.

Let us now consider at what part of the course of the fifth and pneumogastric nerves the irritant lesion produced in them by the grippo-toxine is situated. It seems to me evident that this lesion—whether congestive or inflammatory—must be very high up, as the symptoms habitually implicate the whole extent of the area which is under the influence of these nerves. Moreover, their simultaneous affection which occurs in the catarrhal form of grip would lead us to assume a locality where they are lying close together. The two pairs of nerves are in closest contact, however, in the uppermost portion of the spinal cord and the bulb, where they originate with two nuclei, a smaller motor, and a larger sensitive one, lying respectively on the top of the anterior and posterior grey cornua of the spinal cord. Irritation of this portion of the bulb is therefore shown to account for the symptoms observed in the catarrhal form of grip, just as irritation of certain other centres in the bulb has been seen to account for the symptoms of the nervous variety of grip. I have just mentioned that in my case of bilateral neuritis of the fifth nerve there was great tendency to hæmorrhage from the mucous membranes affected; and this observation leads me to consider another set of symptoms which is apt to occur in grip, and of which I have not yet spoken—viz., the hæmorrhages which may occur in various organs, such as epistaxis, bleeding from the gums, the external and middle ear, the stomach and bowel,

the womb and the kidneys, &c. Such a widely spread hæmorrhagic tendency must have a central cause, and the observation I have just referred to shows the direct dependence of the same upon nerve irritation; so that I feel justified in contending that this tendency is owing to specific irritation of the vaso-constrictor centre in the bulb.

3. *Gastric form of influenza.*—While in a large number of cases the digestive organs escape the morbid influence, instances are met with in which there is not only fever and headache, &c., but regular gastric crises, such as we see them in locomotor ataxy. The principal symptom is incessant vomiting, at first of food and mucus, and afterwards of serum, bile, and blood. This is accompanied with gastric uneasiness, cramp, and intense pain all over the abdomen. In other cases the bowel suffers severely, there being the symptoms of dysentery or choleraic diarrhœa. The gastric crises point most unmistakably to severe irritation of the vomiting centre in the bulb, which is affected not only by stimulation of the central end of the vagus, but also by that of many afferent fibres in the same nerve. The pneumogastric nerve regulates not only the secretion of the gastric juice, but also the motility of the stomach, the glycogenic function of the liver, the action of the pancreas, and even that of the intestines. On the other hand, the whole vascular area of the abdominal cavity is likewise under the influence of the splanchnic nerves, which unite with the phrenic and right pneumogastric to form the cœliac plexus, from which spring the phrenic, hepatic, splenic, mesenteric, renal, and other plexuses. It may thus be readily understood that a shock given to the nucleus of the vago-accessory nerve in the bulb may be transmitted to the whole of the abdominal organs by the nervous path just indicated, and cause more especially the intestinal crises of which I have just spoken.

Having thus traced the immense variety of symptoms occurring in the different forms of influenza to irritant poisoning of the bulb and the nerve nuclei contained in it, one other question remains for me to answer—viz., Why should the grippo-toxine tend to attack with preference the parts I have mentioned? To that question I can only reply by pointing to analogous facts, which have long been known, showing the existence of elective affinities of other poisons to other portions of the nervous system. Let me remind you that ergot of rye attacks with preference the posterior columns of the spinal cord, while lathyrus cicera lays hold in a similar manner of the lateral columns, and lead seeks out the anterior grey cornua of the same organ. With such striking instances before us, it may appear less surprising that the grippo-toxine should select for its point of attack another strictly circumscribed portion of the nervous system, the integrity of which we know to be of the first importance for the various phenomena of life.

In conclusion, I trust that the views of the pathology of grip which I have laid before you may lead to a better comprehension and appreciation of the, at first sight, apparently incongruous phenomena which have been observed in the course of such epidemics as we have recently passed through. Let me at the same time express the hope that before long some junior Fellow of this Society, well versed in the methods of bacteriological research, may succeed in discovering the true micro-organism of grip, in isolating the toxine secreted by it, and in finding the anti-toxine capable of neutralising the virus, and thus securing immunity. Until this has been attained I would recommend, in case another epidemic of influenza should be at our doors, *wholesale protective revaccination of the population with animal lymph*, which seems, according to data furnished by Goldschmidt, to have been the efficient agent in lessening the occurrence and fatality of influenza in the German army, where revaccination is enforced at stated intervals, as compared with the civil population. The general conditions of life amongst the troops rather tend to promote than to hinder the spread of such an epidemic amongst them, as they are more exposed to the inclemencies of the weather, have to undergo great fatigues, are badly fed, and sleep in overcrowded dormitories. Yet, in spite of all these drawbacks, it was found that, while influenza affected 42 per cent. of the civil population of Berlin, and as much as 64 per cent. of that of Paris, its prevalence in the German army amounted only to 11·1 per cent. A number of garrisons were entirely spared, while the civil population of the towns where they were stationed suffered severely; and no garrison was ever affected where the civil population enjoyed immunity. Apart from this, the average duration of the illness was comparatively short—viz, 5·65 days—while unfavourable complications occurred only in 3·1 per cent. of those affected. The death-rate from grip was also smaller in the army, being twelve times less than that of the civil population of Berlin, and twenty-five times less than that of Paris. It was likewise found that, amongst the troops, those suffered chiefly who had not been recently vaccinated. These observations find a singular corollary in the fact, which has been observed over and over again, that infants and very young children are proof against influenza. What else is likely to be the cause of this, except that they have acquired immunity by recent vaccination?

> "For in the morn and liquid dew of youth
> Contagious blastments are most imminent."

On the other hand, we know that school children, who have presumably not been revaccinated, and in whom the protective power of early vaccination has been lost, suffer severely from grip. I am also in possession of a number of other facts showing that, in the midst of a crowd of grip-stricken people, a small cluster of persons who had for some particular reason been recently revaccinated remained untouched by the epidemic, although they mingled freely with those affected; while in some establishments everyone was struck down except those children and adults who had been revaccinated a short time before.

The facts and inferences which I have placed before you appear to be of far-reaching importance; and although it still remains to be proved that we are able to stamp out influenza by resorting to revaccination, there seems good reason for asking you to proceed to this task, with the view of obtaining a further advance towards that great ultimate end of all our labours—the prevention of disease. If you consider the immense amount of individual suffering entailed by the attack of influenza, the lives lost, the health and working power of thousands of persons destroyed for all time, and lastly the distress caused to whole families by the sudden loss of the breadwinner through this scourge, you will no doubt agree with me in thinking that the slight inconvenience caused by revaccination will appear like a feather in the scale when weighed against such evils as I have just mentioned, and which it is our duty to prevent from occurring in the community.

TWO CASES OF AMPUTATION OF THE ENTIRE UPPER EXTREMITY.

By FREDERICK TREVES, F.R.C.S.,
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THIS amputation—the *amputation interscapulo thoracique* of the French—involves the removal of the upper limb, together with the scapula and all but the inner third of the clavicle. The parts are removed in one piece, and no disarticulation at the shoulder-joint is attempted. The operation appears to have been first performed in 1808 by Ralph Cumming, a surgeon in the English navy. It has been carried out in some few cases of extensive injury of the upper extremity, including gunshot wounds, and in a large number of examples of malignant tumour involving the region of the axilla and shoulder-joint, the complete removal of which could not be effected without the sacrifice both of the arm and of the scapula. It has been performed also in examples of extensive bone disease. The amputation was perfected—so far as it is possible to speak of anything in surgery as finite—by Paul Berger, whose elaborate monograph appeared in 1887. Another valuable paper has been contributed by Mr. Chavasse,[1] who appended to an account of a successful operation a list of forty-four cases in which the amputation had been performed for neoplasmata. Out of this number nine died from the immediate effects of the operation. Nineteen of the amputations were performed in this country. The best method of performing the operation is undoubtedly that carried out by Paul Berger. The procedure is conveniently divided into four stages:—1. The clavicle is exposed; the middle third is bared of periosteum by the

[1] Med. Chir. Trans., 1890

rugine, and is excised; the subclavian artery and vein are then secured by double ligatures and divided. 2. An antero-inferior or pectoral flap is fashioned, the pectoral muscles are divided, and the brachial plexus is severed at the same level as the axillary vessels. 3. A postero-superior or cervico-scapular flap is fashioned, and the trapezius muscle is cut across. 4. The extremity is removed by dividing such muscles as still connect the scapula with the trunk. The actual details of the amputation I have fully described in my "Manual of Operative Surgery."

The following cases have recently been under my care in the London Hospital:—

CASE 1.—Ellen H——, aged forty-three, was admitted into the hospital on June 4th, 1891. She was a bright, active, and healthy-looking woman. She had had sixteen children, twelve of whom were living. The upper part of the right humerus was occupied by a large elastic tumour, which presented upon the anterior aspect of the shoulder-joint, and formed a mass as large as a fœtal head. This subsequently proved to be a round-celled sarcoma, which had commenced in the interior of the bone, and had almost completely destroyed its upper extremity. The growth had invaded the shoulder-joint and the deltoid muscle. No amputation at the articulation would have been possible without leaving a considerable part of the growth behind. Rheumatic pains in the shoulder had been complained of for some four years; the movements of the joint had been impaired for the previous eighteen months, and swelling was first discovered fifteen months before admission. There were increasing pain and increasing uselessness of the limb. The pain had latterly become very severe. The patient's general health was excellent. The operation was performed on June 5th. The bleeding was trifling. Only four ligatures were required, exclusive of those on the axillary vessels. The amputation occupied but a short period of time. Twenty-eight silkworm gut sutures were required to close the wound. No drainage-tube was employed. The wound was dressed with Tillmann's linen and iodoform, and the cavity of the wound was obliterated by pressure. The wound was dressed on the evening of the same day, and again on the third, fifth, and eighth days. On the latter occasion all the sutures were removed. The wound healed throughout by first intention. The healing was from the first sound and quite complete. The temperature never rose above normal, and at no time reached 99°. The patient was allowed to get up at the end of a fortnight, and left the hospital on the twentieth day. The relief from pain was complete.

CASE 2.—Hannah L——, aged fifty-seven, was admitted on June 30th, 1891, with a recurrent scirrhous growth in the axilla. I had removed the right breast for scirrhus on Aug. 15th, 1889, and had evacuated the axilla. The growth was of eighteen months' standing, and many glands were implicated. The wound healed by first intention. The patient remained well and had perfect use of the arm for fourteen months. The arm then began to be stiff, and a lump was detected in the axilla. This grew rapidly, and the extremity soon became useless. Six months before admission neuralgic pains commenced in the arm, and these became more and more severe. A month before admission, œdema of the limb was noticed. The growth in the axilla had ulcerated, and more or less severe hæmorrhage had occurred on four occasions. The patient's condition when she entered the hospital was deplorable. The limb was quite helpless, and she could not bear it to be moved, or even to be touched. The degree of œdema was extreme. In no case of diffuse inflammation of the extremity have I met with so enormous a limb. This excessive swelling was explained subsequently by the discovery that the subclavian vein was entirely obliterated. The pain experienced in the limb was intense, and was described as "agonising" and "unbearable." Large quantities of morphia had been administered, but the dose had to be considerable to produce any effect. The patient slept but little, and was usually found propped up in bed, moaning and rocking her head to and fro. The pain was evidently due to the implication of the brachial plexus in the growth. No swelling could be detected in the neck. The scar of the old operation was sound. The axilla was occupied by an ulcerating mass from which the foulest discharge escaped. Considering the terrible and continued pain, the patient's general condition was better than would have been expected. Fear of moving the arm prevented her from leaving her bed. She was but little wasted. There appeared to be no means of relieving the patient but by removing the entire limb by Berger's method. The extremity was more than useless, and it was evident that the two flaps could be so fashioned as to be clear of the growth. Injections of morphia, frequently repeated, did not entirely overcome the pain, and very seldom induced sleep. The relief of pain was the sole question of treatment, for the excision of the growth alone would be practically impossible and useless. The case might have been met by a division of the brachial plexus in the neck, but such was the state of the limb that this operation would almost certainly have been followed by gangrene of the extremity. Amputation offered the only means of meeting all the symptoms, including the foul ulcer in the axilla. The operation was performed on July 3rd. As the arm was being carried from the side, the rotten tissues of the axilla gave way with a rent. The foulness of the discharge was excessive, and some time was occupied in endeavouring to render the parts less septic. On excising the central part of the clavicle, the growth was found to have reached the level of that bone. I abandoned the search for the artery, and at once made the pectoral flap. The artery was now readily exposed, cut across, and tied. The vein was entirely obliterated. It was necessary to modify the outline of the flaps a little, but the operation presented no difficulty. The bleeding was trifling; six ligatures were applied, exclusive of the one on the main vessel. A drainage-tube was inserted, and was removed in twenty-four hours. The temperature remained normal after the operation; and never reached 99° except on one occasion; this was on the evening of the seventh day, when it suddenly ran up to 100°. The wound had healed by first intention from one end to the other, but under the centre of the cicatrix—from which the sutures had not yet been removed—a small collection of pus, represented by about one drachm, was discovered; this was evacuated, and the next morning the temperature was again normal and remained so throughout. With the exception of the point of suppuration alluded to, the wound healed perfectly by first intention. The patient was allowed to get up on the ninth day. By the fourteenth day she was going daily into the garden, and at the end of three weeks from the date of the operation she went home. The improvement in her condition was remarkable. The pain, the burdensome limb, and the foul discharge were all gone. The immense mental relief experienced had much to do with the noteworthy alteration in the patient's aspect and bearing. In the matter of pain the relief will probably be permanent, but an early recurrence of the growth is, of course, inevitable.

So far as I can ascertain, there is but one other example of amputation of the entire limb for carcinoma of the breast. It is reported by Morisani Domenico. The patient was fifty-four years of age. The carcinoma involved the right breast, the axilla, the thoracic wall, and the surrounding parts. In addition to the amputation, considerable portions of the second, third, and fourth ribs were removed. The thoracic cavity was opened, and the patient died in five hours. The operation was performed on March 15th, 1885.

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TWO CASES OF TRAUMATIC EPILEPSY TREATED BY TREPHINING.

BY ALEXANDER MILES, M.D., F.R.C.S. EDIN.,
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As every detailed case bearing on the subject of traumatic epilepsy and its treatment by trephining is of value, I venture to put on record the following two cases. Both were operated on by Mr. A. G. Miller, surgeon to the Royal Infirmary, Edinburgh, and came under my observation while acting as his house surgeon. I am indebted to Mr. Miller for permission to report them. They both illustrate the extremely vague and varied pathology of the condition, as well as the difficulty of diagnosis and the uncertainty of prognosis, not only before, but even after an operation has been skilfully performed. In the first case no evident lesion was found at the operation, yet the patient made a perfect recovery from his fits, and has remained free of them for three years and a quarter; while in the second a

well-marked cyst of the meninges was discovered and emptied, with no improvement whatever in the condition.

CASE 1.—This case refers to Andrew S——, a married man, aged forty-two, by trade a wire weaver. He has a good history as to his previous health, and has indulged a great deal in athletic sports of various kinds, his chief recreation being deep-sea fishing, either from a boat or from the end of a pier. The only injury he received previously to the one to be detailed presently was a stab over the middle of the right sterno-mastoid muscle. In November, 1884 (i.e., three years and a half before his admission to Ward 31, Royal Infirmary, Edinburgh, on June 30th, 1888), while engaged fishing from the end of Leith pier in the dark, he met with the accident from which he dates his present illness. He was in the act of stooping forward to gather up his line, when he was suddenly struck on the top of the head by a heavy lead-sinker, about a pound in weight, which had come off the line of a fellow-fisher while being swung in the air before being "cast." He was stunned at the time, but not rendered unconscious. He seemed to hear a deafening sound in his ears, and exclaimed, "My God! is that somebody firing a gun?" He felt blood trickling over his forehead, and said to the owner of the sinker that he "must have been shot." The wound was dressed at Leith Hospital, and healed by first intention. He had no headaches after the accident, but the cicatrix was always tender, and he felt it painful when his hair was being cut. This was the only discomfort he had till he was seized with his first fit. For about a month before he first had a fit, which was on June 26th, 1888, he had been busily engaged at night repairing and painting a boat for his fishing, and was always very tired and hungry when he got home. He took a heavy supper, and at once retired to bed. One morning, about 3 A.M., his wife was awakened by hearing him "chittering with cold," as she described it. She found him lying on his back, with his head turned upwards and to the right, his eyes in the position of conjugate deviation, his arms fixed to the side of his chest, his forearms flexed, and his hands closed. At first the legs were extended, but they gradually became flexed, till the thighs were folded on the abdomen and the legs on the thighs. During all this time he was trembling, his teeth grinding, and his lower jaw in a state of clonic contraction. This condition continued for about ten minutes, and then suddenly passed off, leaving him apparently unconscious and unable to speak; but he put his right hand up to stroke his face, and then, turning over on his left side, went to sleep. His breathing was shallow and rapid. He woke up at 5 A.M. complaining of a peculiar stiffness in the back of his neck, but went out to his work, only staying at it, however, for three hours. During the day, while sitting in a chair "shelling mussels" for bait, he took a second fit. He gave a groan, the knife and mussel fell from his hand, and he lay back in his chair convulsed. His head was thrown back, and to the right; his eyes turned to the right in the position of conjugate deviation; his arms and hands in the same condition as in the first fit; his legs remained extended and crossed at the ankles, while his whole body, including his lower jaw, was trembling. He kept uttering a "shrill whine." At the end of about twenty minutes this condition passed off somewhat suddenly, and he was placed on a sofa in a dazed condition, not answering when spoken to. After lying for about ten minutes he began to speak indistinctly and thickly, and up to the date of his admission he had never again spoken clearly. Suddenly he would cease speaking in the middle of a sentence, remain aphasic for a minute or two, and then speech would return as suddenly as it left. He returned to his work three days after, and as he was not fit for his ordinary duties he was put on to a light job, which practically consisted in noting the number of times a wire rotated round a wheel, but he felt unfit even for this; he got confused, made mistakes, and constantly felt dizzy, with an inclination to fall forward. He went home, and in the evening had another fit, differing from the two preceding in being less severe, and with slightly different muscular symptoms. Sitting in a chair, he took a loud, sudden, deep inspiration; his eyes and head were turned to the right. The right side of the mouth was drawn downwards and outwards. These only lasted about half a minute, but it was several minutes before he regained his speech. He had similar small fits at intervals of about twenty minutes, till he came into hospital.

Condition on admission.—His fits since he came into hospital have been very frequent. After coming out of the fits he has confusion of vision; he keeps moving his eyes from one object to another, as if he could not bear to look long at one thing. He is unable to answer questions. His fits always begin by deviation of the eyes to the right and slightly upward. After about three seconds the mouth gets stiff, the lips tremble, the eyebrows are elevated, and the eyes widely opened. The right angle of the mouth is then drawn violently outwards and slightly upwards. The right eyebrow is depressed and corrugated towards the middle line, as in frowning. He emits a long gentle cry, turns his head to the right, and protrudes his chin. Tonic spasm continues for a few seconds in all the muscles concerned, followed by clonic contractions lasting for nearly a minute. The left sterno-mastoid acts synchronously with the right platysma myoides. There is now no spread of the convulsive movements to the arms, and no loss of consciousness. The pupils are dilated during the fits. The moment the fit begins he becomes aphasic, and remains so for a few seconds after the fit passes off; even then he only speaks indistinctly. He has some difficulty in swallowing fluids, which tend to pass into his nose. (The above notes were taken by kind permission from Dr. Wyllie's case-books.)

July 7th, 1888: Patient in pretty much the same condition as before; fits occurring every twenty or thirty minutes all day.—8th: Had nine fits during the night.—9th: Had twenty-seven fits in twenty-four hours.—10th: Patient was removed to Ward 18, to the care of Mr. A. G. Miller, for operation. At 4.30 P.M. on that day he was put under chloroform, and an incision made over the seat of the cicatrix, which was a little in front of the parietal eminence on the left side. A circle having been removed from over area 12 of Ferrier, the dura mater, which, like the bone, showed no abnormality, was incised and the brain exposed. Beyond slight congestion of the surface and a somewhat œdematous look, nothing abnormal was so far exhibited. The skin incision was then extended backwards in the direction of area 6, and two more circles having been removed, the dura was opened to a similar extent, but nothing to account for the phenomena was displayed. The brain substance within reach was thoroughly explored with a hypodermic needle, but with negative results. Some venous oozing was readily arrested by iodoform gauze, and the wound was closed, allowance made for drainage, and the patient put back to bed. While recovering from the influence of the chloroform he had one fit, but for the next hour he had no other. After that time, however, the fits recurred as often as ever, having much the same characters as before. The right arm was more rigid and the fingers clenched, the left arm being convulsed as before. The right leg was more rigid than the left.—11th: Wound dressed under the spray; gauze removed. During the day the fits continued, and in the intervals there were marked twitchings of the hands and arms. In twenty-four hours he had forty-six fits.—12th (2.30 A.M.): Pulse 128. Right arm now more convulsed than left, which is rigid. The legs are less affected than before operation. In the intervals between the fits the right arm appears to be somewhat paralysed, and less useful to the patient than the left. Fits went on all day, varying in intensity; sometimes the whole body was affected, sometimes only the face and eyes. Forty-five fits in twenty-four hours.—14th: Patient still having fits daily as before. He is quite aphasic, but understands all that goes on. The patient had a fit nearly every half-hour all day. The following is an accurate description of one of these. To begin with, the eyes were turned to the left and slightly upwards. This lasted for about eight seconds. Then the mouth was drawn to the right, the muscles remaining for about ten seconds in a state of tonic contraction, after which the contractions became clonic, lasted for about thirty seconds, and gradually passed off. As soon as the facial muscular contractions commenced the eyes began slowly to move towards the right, till they came to look straight forward, and there they remained till the fit was over. The parts involved in this fit were (1) right side of face, (2) right side of forehead, (3) right eye especially, (4) left sterno-mastoid, and (5) left platysma myoides (slightly). There were no contractions of the limbs or of the left side of the face, and the whole fit lasted about sixty-five seconds.—21st: During the last week the fits have been rather more frequent. They have been almost invariably ushered in by a low cry, and for the most part confined to the face. As he had some difficulty in swallowing food, his diet was supplemented with nutrient enemata. He has been having bromides, belladonna, &c.—28th: The fits still continue to

increase in frequency, although they are now much less severe than formerly. The cry seems to bear a direct relation to the severity of the fit, a loud cry usually being followed by a severe fit, and *vice versâ*. Many of the fits lately have not been attended with any cry, and these consisted mainly in a twisting of the angle of the mouth and deviation of the eyes. On the 23rd the patient had the largest daily record—namely, 219 fits.—29th: During the day he had 207 fits. At 4.15 A.M. he had a fit, and for twenty minutes he continued to pass from one into another without any interval, morphia, bromides, &c., all being tried without evident benefit.—Aug. 4th: The number as well as the severity of the fits have been diminishing during the last few days.—5th: Only had nineteen fits to-day, and these were very slight.—6th: Only two fits in twenty-four hours.—20th: Patient has remained free from fits. His wound has healed up entirely, and he has greatly improved in his general health. Went home well.—Oct. 22nd: Reported himself well. No return of his fits. Able to go about, and intends resuming work soon.—Jan. 28th, 1889: Reported himself again. Has a numb feeling all over the right side of his face, which is more marked when he is fatigued after hard work. Has had one fit since leaving hospital. He attributes it to grief at the loss of a child.

The following is a complete list of the patient's fits, which were carefully recorded by the nurse:—

Date.	Temperature.		Fits.		
	Morn.	Even.	Day.	Night.	Total.
1888.	Degrees.	Degrees.			
June 26th	—	—	—	1	1
,, 27th	—	—	1	—	1
,, 28th	—	—	—	18	18
,, 29th	—	—	30	30	60
,, 30th	—	—	30	30	60
July 1st to 6th	—	—	60*	—	360
,, 7th	—	—	—	—	60
,, 8th	—	—	30	9	39
,, 9th	—	—	—	—	27
,, 10th	99·0	100·4	18	30	48
,, 11th	99·0	100·2	25	21	46
,, 12th	99·4	101·6	27	18	45
,, 13th	98·0	99·0	17	27	44
,, 14th	98·4	98·8	23	19	42
,, 15th	97·4	98·2	31	31	62
,, 16th	98·4	99·4	36	28	64
,, 17th	98·0	99·2	33	29	66
,, 18th	97·4	98·6	37	29	66
,, 19th	98·0	98·6	37	34	71
,, 20th	98·0	97·6	46	32	78
,, 21st	98·0	98·4	50	37	87
,, 22nd	98·4	98·0	65	39	104
,, 23rd	97·4	98·4	148	71	219
,, 24th	97·0	97·0	71	92	163
,, 25th	98·0	98·0	65	64	129
,, 26th	97·2	97·2	93	64	157
,, 27th	97·2	95·0	93	69	162
,, 28th	97·2	98·0	93	69	162
,, 29th	94·7	97·8	128	79	207
,, 30th	97·2	97·4	77	111	188
,, 31st	97·6	97·4	109	71	180
Aug. 1st	97·0	98·4	114	110	214
,, 2nd	97·4	93·0	93	67	160
,, 3rd	97·2	98·0	69	46	115
,, 4th	97·2	97·8	44	29	73
,, 5th	97·4	99·2	16	3	19
,, 6th	97·4	98·4	2	—	2
—	—	—	—	—	3597

* Daily average.

History after leaving the hospital.—Oct. 11th, 1890: For about a month the patient continued to gain strength at home, and then he returned to his work as a wire weaver. He felt able to do his work and improved in his general condition, being free from any return of his fits for three months. At the end of that time he was much grieved at the loss of one of his children, and while speaking of this subject to a relative in the street he suddenly became aphasic, stopping short in the middle of a sentence. He walked a little further down the street, and then was seized with a distinct fit. As before, his head and eyes were turned to the right, and his arm was convulsed. He staggered against the wall, but did not lose his balance. He remained in this state for a few seconds, and then gradually recovered. He was still aphasic, but quite conscious of all that was going on. He signed to his friend to accompany him home, and after walking about 100 yards his speech returned. He had no uncomfortable after-symptoms, and has never had a similar seizure up to the present time—that is, two years after leaving hospital. The patient says that he feels his head a little queer when he is much excited in any way, although he cannot define his sensations accurately. He also feels in a similar way the changes in the weather. When at work his whole body is subjected to severe jars by the banging of the weaving beam, and since returning to his work he has felt these more than he did before. He feels "as if his brain moved about inside his head with each vibration." He has found, however, that by wearing a tight-fitting felt hat while at work these unpleasant sensations are much diminished. So much comfort does he derive from the tight band that he almost constantly wears it. In every other way he has quite recovered his previous state of health.—Sept. 18th, 1891: The patient is in good health, and has had no recurrence of fits since last report.

Remarks.—1. It is of interest to note the long interval which elapsed between the injury to which the patient's illness was attributed and the onset of the fits. For three years and a half he had no discomfort save a slight tenderness in the cicatrix. This is, of course, not an unusual history; but it is, I think, important to observe that here the more serious condition supervened on the patient becoming run down in his general health, and after fatigue and exposure to wet, and that, when once started, the vicious process, whatever it may have been, showed no tendency to abate until considerable time after the operation. 2. The lesion to which the epileptic seizures were attributable was by no means evident, and unfortunately the operation did not throw much light on the point. The possibilities were—(*a*) some disease of the brain itself; (*b*) irritation from depressed or splintered bone; (*c*) some abnormal condition of the brain membranes; and (*d*) reflex irritation from the tender cicatrix. There was no evidence of the existence of either of the first two conditions here; and as regards the third, the mode of onset and the general condition of the patient at the time might have suggested some degree of chronic meningitis as the starting-point. The increase in the symptoms for some time after the operation might be explained by additional irritation of the meninges by handling, lotions, &c, and the subsequent stoppage of the fits by the subsidence of this inflammation. On the other hand, a similar line of argument might be applied to the fourth probability—namely, increased reflex irritation from a cicatrix which had all along been tender. We know that this condition has often been attributed to such tender scars: e.g., by Mr. Walsham, who found a tender cicatrix or spot in forty-four out of eighty-two cases; by Briggs of Nashville, in whose hands the excision of tender cicatrices was followed by recovery in five cases; and by others. 3. It is of interest to note the very large number of fits the patient had—3597 in all, and as many as 219 in twenty-four hours. 4. I have already referred to the almost complete immunity from fits enjoyed by the man during the three years and a quarter which have elapsed since the operation, at which nothing definite was found. In seven out of the eighty-two cases quoted by Walsham the epilepsy was cured, although nothing had been found at the operation. 5. This is another case in which the value of inquiring very carefully into the initial symptoms of the illness, as insisted on by Dr. McEwen, was of value in localising the probable focus of the nervous discharge.

(To be concluded.)

THE USE OF ATROPINE IN CASES OF LEAD-POISONING.

BY F. ROWLAND HUMPHREYS, L.R.C.P. LOND.

IN THE LANCET of May 11th, 1889, I published a case of acute lead-poisoning, with respiratory and general paralysis, which yielded like magic to a hypodermic injection of atropine and morphia, and I showed that the atropine was the active substance. I have recently had five cases of lead-poisoning which were greatly relieved by the exhibition of this remedy. Briefly, they are as follows.

L——, aged forty-six, was seen on April 5th, 1891, when he complained of severe pain in the stomach, shooting thence up into the head. He was so weak as to be unable to

walk more than a few hundred yards without resting. He also complained of his limbs twitching at night and of sleeplessness. He looked very sallow and ill, and had a well-marked lead line on both jaws. He was ordered iodide of potassium (5 gr.) and sulphate of atropine ($\frac{1}{100}$ gr.), with ammonia and gentian, thrice daily. On the following day he was much better, remarking that the pain had almost left him after the first dose. On the 8th the bowels were acting twice daily without aperient. On the 18th he was ordered to take strychnia and iron in addition to the iodide and atropine, and could walk five miles without great fatigue.

B——, aged twenty-five, subject to epileptic fits, was seen on April 6th, when he complained of great depression, and inability to walk more than a very short distance. He had severe abdominal pains, which darted up into his head, and also caused pain in the chest. The bowels were confined. He looked most miserable, and it seemed probable that he would have a fit. He was ordered a similar mixture to that in the last-mentioned case, and when next seen (on the 11th) he was quite a different being, the bowels acting (without aperient), the pain in the stomach gone, and the head better. He had not had a fit. On the 14th he was well; and on the 18th the lead line, which had been well marked, had disappeared.

K——, aged twenty-eight, was seen on April 6th, when he complained of general(?) muscular pains, was sick, and had pain across the stomach shooting up into the head. He was very languid. He had the lead line on the gums. On the 8th, having been treated like the first case, he was very much better, the bowels acting without aperient. On the 18th the lead line had almost disappeared.

T——, aged twenty-nine, when seen on Dec. 12th, 1890, had been four weeks ill with pain in the stomach and occasional vomiting. He had been confined to bed through weakness for three weeks. The bowels were confined. He had tenderness in the hypogastric region, and had the lead line on the gums. He was at once relieved by a small dose of morphia and atropine, and rapidly got well under iodide combined with belladonna, morphia, and sulphate of magnesia.

E——, aged twenty-six, subject to fits, was first seen on March 17th. He had a well-marked lead line on the gums and teeth. He was suffering from abdominal pain, which shot up into the head, and the bowels were confined. This was a very remarkable case, the patient developing hysterical mania, with hallucinations of sight and hearing. On the 30th, after a fit of excitement followed by collapse, he found he could not walk, and had almost complete loss of power in the body, with great weakness of the arms. Attacks of angina pectoris came on; he had convergent strabismus; the radial pulses on the two sides of the body differed markedly; the urine showed suppression of urea, while the pulse tension was very high. He was treated with pilocarpine, and ordered a non nitrogenous diet. He was very slowly improving, when, in the evening of April 5th, it became necessary to administer atropine and morphine hypodermically as a sedative. The next day he declared himself as feeling quite well; the bowels, which had been very confined, acted freely; and from that time under atropine and iodide (this last he had been taking all along) he rapidly improved. Later on he had to be sent to hospital, as his relatives showed a complete absence of tact and management, returning home in fourteen days convalescent.

To judge by these cases, it would appear that in lead-poisoning atropine in full doses (1) relieves the colic and the pain in the head in the most rapid manner; (2) it keeps the bowels freely open; (3) it assists in the return of the bodily powers; and (4) it assists, directly or indirectly, in the removal of the lead by iodide of potassium.

Queen's-crescent, Haverstock-hill, N.W.

ANGLESEY AND CARNARVONSHIRE INFIRMARY.—At the annual meeting of the subscribers, held on the 12th inst., the secretary stated, in reply to an inquiry, that the falling off in the subscriptions was due to the fact of the circulation of a report that the institution had become possessed of several thousand pounds under the will of the late Mrs. Symes of Goriyhwsfa. Lord Penrhyn and other subscribers urged the need of a more general local interest in the infirmary, and it was decided to solicit the clergy and other ministers to organise an annual special Hospital Sunday collection in aid of the charity.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

TREATMENT OF TYPHOID FEVER.

By W. H. LAMBART, M.D. TRIN. COL. DUB., M.R.C.S.E.

IN THE LANCET of Oct. 10th, a leading article devoted to typhoid fever, in which it is contrasted with pulmonary tuberculosis, contains the following: "Both have been, so far, rebellious to anything in the nature of specific treatment"; and, again, "No success seems hitherto to have attended the very natural and laudable efforts to find either an antidote for the typhoid poison, or some means of disinfecting the bowels at the seat of the disease." Since the publication of the above, I have been in expectation of finding an illuminating ray of information on the point, but as this has not been forthcoming, I venture to submit the notes of a recent case which was under my care.

A young-looking man aged twenty-nine, rather thin and nervous. Previous history good. Unwell some days (in bed two) before I saw him. Bright rose-coloured papular spots on the abdomen. Tongue yellowish-brown, with red tip and edges, and glazed appearance. Audible gurgling in the bowels, also on pressure, palpable to the hand. The characteristic pea-soup motions, six or seven daily. Ordered a large warm linseed poultice over the abdomen, to be replaced before becoming cold, and a teaspoonful of laudanum on each poultice. Beef-tea alternately, with half new milk and half boiling water, as much of each as the patient could take without discomfort; and a tablespoonful of the following medicine to be taken every four hours: pure carbolic acid, ½ dr.; water to 8 oz. At my first visit on

Oct. 14th	the temperature was	102·2°	and the pulse	122
,, 15th	,,	100·8°	,,	107
,, 16th	,,	100·8°	,,	92
,, 17th	,,	100·5°	,,	88
,, 18th	,,	99·5°	,,	102

As the characteristic motions (six or seven each day) continued, I stopped the carbolic acid, and substituted sulphuric acid and tincture of opium.

Oct. 19th	temperature	101·5°;	pulse	104
,, 20th	,,	101·5°	,,	113

The sulphuric acid was stopped and the carbolic acid resumed, as there had been no alteration in the number of motions, and as the temperature had risen.

Oct. 21st:	temperature	100·8°;	pulse	108
,, 22nd	,,	100·2°	,,	97
,, 23rd	,,	100·6°	,,	95
,, 24th	,,	100·2°	,,	100
,, 25th	,,	99·2°	,,	92

The medicine to be taken three times daily. Motions only twice daily, and more natural.

Oct. 27th:	temperature	99·5°;	pulse	94
,, 29th	,,	98·8°	,,	104

Motions natural; once daily. Better in every way. No relapse. Each day stronger, and feeling better. Convalescent.

It may be said that "this was a mild case." My reply is: I have treated many cases previously in the same way, some of them very severe, and the result in each has been just as successful.

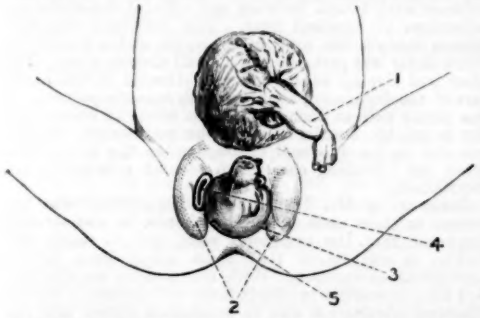
Liverpool.

AN UNUSUAL CASE OF CONGENITAL MALFORMATION.

By ARTHUR MASON, M.R.C.S., L.R.C.P. LOND.

MRS. M——, aged thirty-seven, was confined of her second child on June 18th, 1891. The labour was natural and easy. When born the child's genitals and abdomen presented the following appearances:—The abdominal wall was absent over a circular area about two and a half inches in diameter, extending from just above the symphysis pubis upwards. In the centre of this area the umbilical cord was attached by an expansion. It had numerous large veins

coursing over its surface, and presented a yellowish, translucent, semi-gelatinous appearance, not unlike that of the cord itself. Below the symphysis pubis were the two labia majora, widely separated by a tense swelling the size of a walnut, which appeared to be prolapsed bowel. It presented a bright-red mucous surface, which bled slightly on handling, and became more tense when the child cried or strained. From the centre of the swelling sprang a small projection, with its apex pointing upwards, in size and appearance suggesting a penis denuded of cutis, and having at the extremity a small opening, which admitted a probe about a quarter of an inch. There was no anus visible, but fæces escaped from a slit-like opening in the lower margin of the tumour, and slightly behind it was a a dimple in the skin, occupying the normal position of the anus. The vaginal opening was to the right of the tumour, enclosed by the labia minora; and the meatus urinarius was placed anterior to, and slightly to the inner side of, the vaginal opening, entirely concealed by a fold of the prolapsed gut. Perfect control was exhibited over both sphincters. In other respects the child appeared to be healthy and well formed. The accompanying sketch will



1, Umbilical cord. 2, Labia majora. 3, Prolapsed bowel. 4, Vaginal opening. 5, Point from which fæces escaped.

give some idea of the appearances just described. The child was fed on milk and barley water, and after about six weeks the opening in the abdominal wall closed by granulation, leaving a small flat cicatrix the size of a threepenny-piece. The child survived two months, succumbing to an attack of diarrhœa. It was much emaciated at the time of its death.

Necropsy.—On opening the abdominal wall the cavity of the pelvis was found to be occupied entirely by coils of intestine. The bowel bifurcated at the sigmoid flexure into two portions, one of which, bound down tightly by the mesorectum, terminated in the slit-like opening before mentioned; the other, which was about two inches in length, floated freely in the pelvic cavity, and ended in a cul-de-sac, which was pervious up to its extremity, and communicated at its upper end with the continuation of the bowel. In the right iliac fossa was the bladder (which received the right ureter only), the uterus, and the right ovary and its appendages. The left ovary and appendages were attached loosely by connective tissue along the left brim of the pelvis and had no connexion whatever with the uterus. The left kidney was rudimentary, of the size of a haricot bean, but exhibiting renal structure on section; and the left ureter terminated in a small, white, solid, oval body, the size of a pea, which appeared when divided to consist of gland tissue; it was attached to the left uterine appendages. The right kidney was hypertrophied. At her previous confinement the mother gave birth to a stillborn male child to all appearances normal.

Walton-on-Thames.

SUPRA-PUBIC CYSTOTOMY IN RETENTION OF URINE RESULTING FROM CANCER OF THE VAGINA.

BY ARNOLD CADDY, F.R.C.S. ENG.,
SURGEON TO THE CANCER HOSPITAL, LONDON.

THE following illustrative case is that of Mrs. Mary Z——, aged sixty-five, who was admitted into the Cancer Hospital on Sept. 7th with retention of urine of fifty hours' duration. Her history was that for the last twelve months she has felt something growing in the vagina, and noticed an occasional discharge of blood for the last six months. She has never flooded. She has had difficulty in passing her urine for the last four months. Her father and niece died of cancer of the throat and uterus respectively. On admission the bladder was felt to be distended above the umbilicus. Per vaginam the finger could only be admitted two inches owing to the lumen of the vagina being obstructed by a mass of new growth, which had invaded the anterior wall of the rectum behind and occluded the urethra in front. No urethral orifice was to be seen, and all attempts to pass a catheter consequently failed. Ether was accordingly given at once, and a median incision three inches long was made in the hypogastrium; all the tissues were divided till the bladder was reached, which was punctured, and a finger inserted; some of the urine was allowed to flow out. The bladder wall was then sutured to the skin with eight chromicised catgut sutures. Examination of the floor of the bladder with the finger showed the mucous membrane and the internal urethral orifice to be not yet invaded by the new growth. An indiarubber tube was inserted, and a pad of absorbent cotton wool placed over the wound.—Sept. 8th: She slept well after the operation, and feels much relieved; the pad of wool over the wound requires changing four times in the twenty-four hours.—12th: She got up to-day wearing the drainage-tube.—18th: The sutures were removed, and the wound is nearly healed.—29th: A Jacques indiarubber catheter was inserted into the supra-pubic opening, and passed through Buckston Browne's shield, retained in position by a belt to be worn permanently.—Oct. 15th: Discharged, improved in health by her stay in hospital. The end of the catheter is connected with a bottle worn from the waist.

This operation is always called for in cases of cancer of the vagina, or cancer of the floor of the bladder where the urethra is involved, and certainly ought to be performed when difficulty in micturition commences, and thus avoiding the distress of extreme and prolonged retention of urine that this patient suffered from. The operation presents no difficulty, and the wound heals very easily if the mucous membrane of the bladder be carefully sutured into apposition with the skin, especially at the upper and lower angles of the wound, whereby all leaking of urine into the cellular tissue is rendered impossible. (For the notes of this case I am indebted to Mr. Cecil Beadles, the senior house surgeon.)

Redcliffe-square, S.W.

A SECOND ATTACK OF VARICELLA AFTER AN INTERVAL OF TEN DAYS.

BY RICHARD NEALE, M.D. LOND.

THE recurrence of an attack of varicella is so unusual that its possibility has by some authors been entirely denied. Thomas states that the disease is never followed at once by a complete attack, while Trousseau is almost the only authority who has seen second attacks of chicken-pox. The following case will prove that it may happen, although undoubtedly very rare.

In the month of October I attended a family of children for chicken-pox, one of whom, a boy aged five years and a half, had all the symptoms of the complaint, numerous vesicles and considerable drowsiness, the attack running its usual course. Ten days after the disappearance of the acute symptoms, and when on the point of being allowed out, a profuse crop of vesicles appeared, which were far more numerous than on the first occasion, and the child again went through all the stages of the original attack, the constitutional disturbance being but slight.

Boundary-road, N.W.

ISOLATION AT LEEDS.—Owing to increase of scarlet fever the Sanitary Committee of the Leeds Corporation are about to ask authority to obtain a new site for a hospital, and to visit some hospitals recently erected by sanitary bodies in other large urban districts. Leeds has long failed to be abreast of many of the large boroughs in respect of really good means for isolating infectious diseases, and it is therefore to be hoped that the needed authority to undertake new hospital buildings will be granted to the committee.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

GREAT NORTHERN CENTRAL HOSPITAL.

TWO CASES OF PERFORATING ULCER OF THE DUODENUM IN WHICH EXPLORATORY LAPAROTOMY WAS PERFORMED.[1]

(Under the care of Mr. C. B. LOCKWOOD.)

PERFORATING ulcers of the duodenum are so unusual that the occurrence of two in the practice of one surgeon within a period of three years is, perhaps, worthy of being recorded. Unfortunately these cases throw no new light upon the pathology of this ill-understood disease, nor do they afford indications for its more successful treatment. On the other hand, they are typical instances of their kind, and it is not impossible that when they have been collated with others they may help to afford materials for the diagnosis of cases which may be met with in the future.

The first case in which laparotomy was performed for septic peritonitis due to a perforating ulcer of the duodenum was that of a young man aged twenty-eight years, a clerk, who was sent into the hospital under my care by Dr. Rout. He was admitted on July 2nd, 1888, with the following history. He had always enjoyed excellent health until four days before admission, when whilst drinking a cup of tea he was suddenly seized with a violent pain in the left side. This was thought by Dr. Rout to be an attack of colic; but the next day there was a well-defined tumour to the right of the umbilicus, and the patient was sick and constipated. These two symptoms continued, and the abdomen became distended and tympanitic, and the tumour became obscured. Towards the end of the second day the vomit became green, sour, and afterwards stercoraceous. There was never any history of blood, either in the vomit or in the motions. On the third day Dr. Cowie ascertained that the patient had complete obstruction, with a pulse of 130 and a normal temperature. His expression was very anxious, and there was great distension of the abdomen. Mr. Lockwood could find no particular area of dulness, but there was no vermicular movement in any of the intestinal coils, which could be plainly seen through the thin abdominal walls. With the view of clearing up the question of a mechanical obstruction, the abdomen was opened by an incision along the linea alba to the left of the umbilicus. This gave exit to a quantity of foul-smelling gas, and there was general purulent peritonitis, the pelvis being almost full of pus. The whole of the intestines were carefully examined, but no perforation was discovered. The distended intestines were relieved by a small incision, which was afterwards closed by Lembert's suture. The opening and emptying of the intestine were followed by great collapse. The abdominal wound was closed and drainage established in the usual way, and, although the patient had no more pain, he died seven hours after the operation. At the examination the usual signs of general septic peritonitis were found. The chief focus of this was beneath the liver, and upon the front surface of the duodenum there was a small oblong aperture, which gave exit to the duodenal contents. The margins of this aperture were clean cut, and the mucous membrane in its vicinity was thin and congested. There is no doubt that this perforation was the source of the septic peritonitis.

The second case was that of a man aged forty-one, who was admitted under the care of Mr. Lockwood in May, 1891. He seems to have been a healthy man, except that a year before he had had an attack of abdominal pain, accompanied by constipation; also he seems to have suffered slightly from indigestion. His present illness began suddenly. Whilst at work he was seized with a violent pain in the abdomen, followed by complete constipation and by vomiting, which was at first the contents of the stomach, but afterwards became stercoraceous. There was never any evidence of blood either in the vomit or in the motions. When first seen his expression was anxious, and he complained bitterly of the pain in his abdomen, which was rather tightly distended and tympanitic in every part, except the flanks. The contour of the abdomen was regular throughout, and no respiratory or vermicular movements could be detected. There was nothing in the rectum or in any of the hernial apertures to explain the symptoms of the obstruction. His pulse was rapid, about 120 per minute; and although his temperature was only 99·2° F., Mr. Lockwood diagnosed diffuse septic peritonitis. However, aware of the uncertainty of such a diagnosis, and fearing lest a mechanical obstruction might have been overlooked, the abdomen was explored through the usual incision. Diffuse septic peritonitis was found; but although every region was searched, nothing could be found to account for its occurrence. The abdominal cavity was washed out and drained, and closed with complete assurance that no mechanical obstruction existed. The unfortunate man died ten hours after this operation, and at the examination, which was made by Dr. Galloway, the peritoneal cavity was found intensely inflamed with lymph between the coils of intestines and collections of purulent fluid. This condition was most intense beneath the liver, in the region of the duodenum, which latter was perforated by a small circular ulcer. This ulcer had sloping edges, and was situated at the hinder part of the duodenum, about an inch from the pylorus. It was about half an inch in diameter where it opened into the bowel, but smaller towards the peritoneum. It gave free exit to the duodenal contents when the bowels were lifted up. Nothing else which seemed noteworthy was ascertained.

Remarks by Mr. LOCKWOOD.—Laparotomy was performed in these cases because, although it was strongly suspected that the symptoms were due to septic peritonitis, it was feared that there might have been a mechanical obstruction. With our present knowledge it is, I fear, impossible to discriminate with certainty betwixt intestinal obstruction due to mechanical causes and that caused by diffuse septic peritonitis. It would have been a great misfortune to have overlooked a mechanical obstruction, which might perhaps have been easily remedied. The operation decided the non-existence of a mechanical obstruction, although in neither case was the actual cause of the peritonitis discovered. It looks, at first sight, a simple matter to explore the abdomen and ascertain that there is not a mechanical obstruction, but the task is more difficult than it seems. If, when the abdomen has been opened, collapsed intestine is seen, it is of course a clue to the point of obstruction; but in these cases none existed, and therefore the usual procedure was followed and the cæcal region at once explored. Beginning thence, it was easy to ascertain that the whole of the large intestines, as well as all the small, were uniformly and tightly distended, and that there was also general septic peritonitis. To bring into view the perforation in the first case, the abdominal incision would have had to have been prolonged almost to the ensiform cartilage; and in the second case the aperture was behind the duodenum, in an almost inaccessible position. Beyond this the operation calls for nothing further except to remark that the intestinal distension is an important factor in these cases; it impedes the abdominal exploration, and there is hardly any chance of success if the abdomen is closed without its having been relieved. In the first case this was done by making a small incision into the intestine, which was afterwards repaired with Lembert's suture; in the second this step was not required. Although the diagnosis of diffuse septic peritonitis is exceedingly difficult, yet I am beginning to believe that the task is not impossible. The symptoms are those of acute intestinal obstruction, and often, as in the cases I have just described, the absence of premonitory symptoms, the sudden onset, and the absence of any rise of temperature, leave few indications for a correct diagnosis. However there are other signs worthy of being considered. It is a question whether the intestinal obstruction is ever complete. I have never seen a case of peritonitis in which there was not some passage of flatus. Next, the vomit is sour or bilious in peritonitis, and does not become stercoraceous until many hours have elapsed; sometimes it is never quite stercoraceous. The pain, too, is often described by the patient as being of a burning character, and, if at first

[1] These cases were narrated in a paper read at the Medical Society of London on Nov. 16th, 1891.

localised, soon becomes general throughout the abdomen; there is, as a rule, at this stage, pain on pressure in every region. The abdominal distension, too, is perfectly regular, and, in the cases I have examined, the percussion note is clear everywhere, both over the small intestines and over the cæcum, and along the course of the large intestines. There is one other sign upon which, I believe, great stress ought to be laid. Unless the patient is stout, the coils of the distended intestines can usually be discerned through the abdominal wall. Now in mechanical obstruction these coils exhibit vigorous peristaltic movements until their muscular walls become exhausted; in peritonitis the peristaltic movements are abolished as soon as the inflammation is established. I have not mentioned the negative aids to a differential diagnosis, but the importance of a rectal examination, of blood or mucus in the motions, of tumours or indurations in the region of the cæcum or sigmoid flexure, and of the numerous indications afforded by the age and sex of the patients and by the previous history, are too obvious to need pointing out. The pathology of these ulcers of the duodenum is in such a doubtful and uncertain position that I do not propose to attempt the question. It is strange that they should be so much commoner in men of about thirty years of age than in women.

Mr. Lockwood expressed his indebtedness to Dr. Cowie for the notes of the first case, and to Mr. Falkner for those of the second.

BURTON-ON-TRENT INFIRMARY.

A CASE OF LAPAROTOMY FOR INTESTINAL OBSTRUCTION.

(Under the care of Mr. PHILIP B. MASON.)

THIS case is interesting from the fact that the coils of intestine were strangulated by the same tumour, and that abdominal section did not lead to the discovery of the whole of the mischief. The negative abdominal signs on admission led Mr. Mason to think that the cause of the obstruction might be impaction by the tough skins of the black currants, of which, according to the patient's own account, she had eaten inordinately. The pain from which she suffered she compared to that of her menstrual periods. When the abdomen was first opened, the only sign of peritonitis was a little increase in the natural redness of the gut, and the strangulated portion found, about eighteen inches in length, did not come into view until a very large proportion of the small intestine had been drawn out and returned. This was carefully examined, and found to retain its polish, ending at both extremities in healthy intestine. The second strangulation found post mortem was nearly gangrenous, and it seemed that the weight of the tumour was much more efficient as a cause of stoppage of the circulation when one of the coils had been drawn from beneath it. Even after death there was very little evidence of peritonitis. Although water passed freely both into and out of the sac, its contents were not at all fæcal. Mr. Mason heard afterwards that a sister had died from intestinal obstruction, and that in her case no post-mortem examination had been made. For the notes of the case we are indebted to the house surgeon, Mr. W. Gibson.

H. I——, a domestic servant aged nineteen, was admitted at 7.30 P.M. on July 24th, 1891, complaining of pain in the bowels and of their having been inactive for four days. Five days previously she had eaten very heartily of some black currants, and on the following day had a violent action of the bowels, since which time she has been in constant pain and has passed nothing per rectum.

Condition on admission.—She has a flushed face and dry tongue, covered with a thin fur. Lies on her back with the legs drawn up, and complains of pain in the abdomen, but says that it is much better than it has been during the last few days. Temperature 96°; pulse 90, fairly strong; respiration good. Abdomen slightly distended, but quite soft on palpation, which gives very little pain. There is a little fulness in the left flank over the situation of the left colon. Mr. Mason saw her at nine o'clock, and considered that it was not advisable to operate until enemata had been tried. She was therefore given a large enema of soap-and-water, with hardly any effect. A mixture containing ten minims of tincture of belladonna in half an ounce of water every two hours was ordered. The enema was repeated at 12 o'clock, again with no result. At about 1 A.M. on July 25th she vomited about a pint of fæcal matter. At 10 A.M. another enema was given, with no effect. A consultation of the staff was now held, and the majority were in favour of waiting a little longer. At 10 P.M. it was decided to perform abdominal section, so the patient was put under the influence of ether and the usual incision made. As soon as the small intestines came into view they were seen to be very much distended. Small pieces were drawn out of the wound, examined, and then returned. At last a piece of bowel was found, which was very congested and nearly black. As it was twisted upon itself, it was thought to be a volvulus, and the cause of the obstruction. As the bowel was so distended, it was punctured, and a small quantity of air came away. A catgut suture was put through the small puncture. The abdominal wound was then closed. The patient rallied well from the operation, but became suddenly worse on the following morning and died about 10 A.M.

At the examination of the body made five hours after death, there was found, eighteen inches from the ileo-cæcal valve, a pear-shaped body about 2½ in. long by 1½ in. broad attached to the small intestine by a pedicle 1½ in. long. This body, which was doubtless the remains of the fœtal yelk sac, contained a black, liquid, grumous material. This pear-shaped body was wedged down in Douglas's pouch, and was pressing a coil of small intestine against the promontory of the sacrum, causing without doubt the obstruction.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Laparotomy for Perforating Ulcer of the Duodenum.—Amputation at the Hip-joint.

AN ordinary meeting of this Society was held on Nov. 16th, the President, Dr. Douglas Powell, in the chair.

Mr. LOCKWOOD and Dr. GALLOWAY read a paper on two cases of Perforating Ulcer of the Duodenum in which Laparotomy was performed. The report of the cases appears in another part of our present issue under the heading "Mirror of Hospital Practice."—The PRESIDENT asked if the temperature was depressed below the normal. It was remarkable how intense a peritonitis could exist with a subnormal temperature. He could not agree with the authors in their disposition to operate so early before the diagnosis could be well established. In addition to the signs which had been alluded to as aiding in the distinction between perforative peritonitis and mechanical obstruction, it should be remembered that in the former the normal hepatic dulness often entirely disappeared.—Mr. JESSETT referred to the rarity of this lesion, the diagnosis of which was very difficult. The lives of many patients suffering from tubercular and septic peritonitis had been saved by flushing out the peritoneum. He approved in these cases of the practice of making an incision into the small intestine to empty the gut before proceeding further with a search for a perforation, and he deprecated the practice of puncturing the intestine through the abdomen for the relief of flatus. He was sure that an ulcer of the duodenum could be stitched up by folding in the peritoneal coat and suturing with silk.—Mr. CRIPPS, referring to the question of diagnosis, said that a sudden onset of pain usually indicated the presence of mechanical obstruction, whereas it came on more gradually in perforation. It was an important point to decide how long after a perforation one could wash out the cavity of the abdomen with prospect of preventing peritonitis. He alluded to a case of inguinal colotomy which had been under his care. All was going well, and on the sixth day after the operation a dose of castor oil was administered. Half an hour after a fit of coughing the patient complained of pain, which in the course of an hour became intense in its severity. When he saw her some time later he found that the opened intestine had given way and had dropped back into the peritoneum, and that after this had occurred a copious motion, the result of the action of the castor oil, had taken place into the peritoneal cavity. He enlarged the wound and thoroughly washed out the peritoneum, re-stitched the gut to the belly-wall, and put in a drainage-tube. Almost from the moment of the flushing out the pain began to subside, no peritonitis developed, the patient recovered, and remained well a year and a half afterwards. From a study of this

case two points were clear: that pain might be produced immediately by extravasation, and that fæcal matter might remain in the peritoneum for three or four hours and then be washed out without peritonitis developing.—Mr. LOCKWOOD, in reply, said the temperature was neither depressed nor elevated. He adhered to his opinion that the time to operate was early, before distension had set in, although he was ready to admit that there was a time which was too soon, when diagnosis was doubtful. If there were great distension of the gut with air, the liver dulness would diminish in an upward direction. The incision which he made into the small intestine was an inch in length, and was quite adequate to give the relief required. He felt sure that puncturing was not a course which many surgeons would adopt, though one could not forget the brilliant results which had been obtained by Dr. Oliver of Harrogate, by which he had apparently cured some cases of chronic intestinal obstruction. If he met with another such case he would probably explore the duodenum, and he admitted that there would be no difficulty in adequately suturing the ulcer if one should be found.

Mr. RICHARD DAVY then read a paper on Amputation at the Hip joint, giving the results of ten cases. He said that the gravity of such a procedure ought to impel surgeons to adopt every measure to prevent its necessity. Traumatism played usually an important initial part; insanitation and poverty supplemented it. He did not view excision of the hip very favourably in any but young subjects under the age of ten; after that, the dangers were greater and the ultimate usefulness of the limb not so good. He had operated on ten cases in fourteen years; all except one were markedly inveterate cases of morbus coxæ; four of them had suffered excision prior to amputation, and profuse suppuration and resulting enfeeblement had been the immediate conditions necessitating amputation. All those which had been doubly operated upon had recovered, which was one good argument in favour of dividing an amputation at the hip-joint into two stages, as advised by Keetley. In the series, there were six men, two boys, and two girls, and the two fatal cases were the men, aged respectively twenty-nine and forty-three Two other of the cases had subsequently died, one eleven and the other eight years after the operation. In one of these lardaceous disease was thought to be present at the time of operation, though at the necropsy no trace of it could be found. The method of operating was described: a circular incision was made at about the upper third of the thigh through all the soft structures down to the femur; the lower section was then drawn forcibly towards the knee to give space for the ligation or torsion of vessels. An external incision was then made down the femur, the bone was freed from its muscular attachments, and the limb exarticulated and removed. The acetabulum having been scraped if necessary, the wound was irrigated and closed. Hæmorrhage was controlled by the elastic ligature. He pointed out that the assertion commonly made that in amputation at the hip-joint one-fourth of the body was removed was erroneous; in one of his own cases he weighed the limb afterwards and found that it was only one-thirteenth of the body weight. He referred to the late Mr. Shuter's subperiosteal method of amputating, and alluded to the decision of the committee of the Clinical Society on his case. He thought that for working people crutches were to be preferred, as they were a great support, a warning to outsiders, easily discarded or resumed, and were comparatively cheap. He attributed the reduction in the mortality to general reasons—the use of anæsthetics, the more rigorous application of measures calculated to prevent the loss of blood, the diminished shock by cutting the soft parts through the upper third of the thigh, improved hygiene and nursing, and more careful selection of cases for operation. Specimens were shown to illustrate the paper.—Mr. SHEILD said that these desperate cases of hip-joint disease were entirely found amongst the poor, and were usually the result of neglect. He asked the author what he would do in a case of early and marked hip disease. Would he advise early excision or erasion, or would he treat it with splints and waiting? In the case of poor children with pus in the joint, he felt himself that the proper treatment was early and complete removal of the diseased structures. In cases where necrosis of the pelvis coexisted, the diseased bone from this region should also be removed freely at the time of the operation. He wondered if lardaceous disease would disappear after cure of the lesion causing it, and whether lardaceous disease in itself could be so severe as to negative operation. He inquired if the author had tried reinjecting the blood from the ablated limb, either by itself or mixed with saline fluid, or whether he had injected saline fluid alone.—Mr. STEPHEN PAGET asked if the femoral were tied first before the amputation. He thought that this procedure was safer and more certain than the elastic ligature or the tourniquet.—Mr. LOCKWOOD observed that Mr. Davy had expressed no opinion with regard to the subperiosteal method. It was so very easy to turn the femur out of its periosteum. In one case that had come under his notice the periosteal canal had remained as a suppurating channel, which led to the patient's death from lardaceous disease, and in another instance the badly formed new bone had to be removed.—Mr. DAVY, in reply, said that he would treat the early cases in the way usually at present adopted. In all the cases in which he had operated everything else had been tried, such as rest, splintage, and cod-liver oil. He confessed that the only case in which he had diagnosed lardaceous disease to be present was not found to be so after death. He had had no experience with intravenous injections. In a case of lardaceous disease he would certainly perform amputation in order to save the patient's life. In Mr. Shuter's case the result was very good, and one advantage of the subperiosteal method was that it promoted free drainage.

PATHOLOGICAL SOCIETY OF LONDON.

Mandibular Tubercle and Cicatrices.—Cancer of Œsophagus.—Intestinal Concretion.—Lymphadenoma of Spine and Cord.—Inoculated Tuberculosis in Snakes.—Tubercular Growth in Ureter.

AN ordinary meeting of this Society was held on Nov. 17th, the President, Sir George Humphry, in the chair.

Mr. BLAND SUTTON communicated a contribution on the Mandibular Tubercle and Cicatrix, which he illustrated by pictures on the screen. The paper will be published in full in our next issue.—Mr. STEPHEN PAGET showed some drawings of saccules of the lower lip which he had copied from original publications. He said that in most cases in which these saccules had been found other deformities were present, especially hare-lip.—Mr. BLAND SUTTON explained the occurrence of these recesses on developmental grounds. The lower lip was at first widely cleft, and if perfect coalescence did not take place, a recess or two recesses, or a median hare-lip, remained. This condition persisted for a long time in kangaroos, though it was rarely seen in human beings. It was clear that three forms of abnormality could occur: dermoids, recesses, or tubercles. In the lower lip the first two had already been found, and he was convinced that the third would be found before long if it were looked for.—Mr. STEPHEN PAGET could not agree entirely with Mr. Sutton's explanation; for if it were true, he thought that only one median saccule ought to be found, and not two, as had usually been the case.—Mr. SUTTON, in reply to this, pointed out that he had already shown that two tubercles did exist side by side in some dogs, and these he considered to be quite comparable to the recesses which Mr. Paget had mentioned.

Dr. W. B. HADDEN described a case of Carcinoma of the Œsophagus which extended towards the stomach, and he showed the specimen. The patient had been treated by continuous catheterisation. For eight weeks he had been fed through a catheter passed along the œsophagus into the stomach. During this time the tube was only withdrawn to substitute one of larger size. The stricture seemed to have dilated well, so continuous catheterisation was stopped, and he was fed by the mouth, a bougie being passed twice a week. The dysphagia soon returned, so that at the end of eleven weeks from the commencement of treatment gastrostomy had to be performed. At the post-mortem examination the walls of the œsophagus in its upper part were infiltrated with new growth, masses of which projected into the lumen. The main mass had a vertical extent of four inches. In the lower half of the œsophagus the growth extended downwards from the main mass in uninterrupted lines nearly to the cardiac orifice, the lines clearly corresponding to the rugæ. There was a small nodule of growth in the mucous membrane of the stomach, just beyond the cardiac orifice. The pathological appearances

suggested that the catheter had excoriated the mucous membrane of the œsophagus, and that the malignant growth had been thus inoculated into the lower half of the gullet.—Mr. J. JACKSON CLARKE mentioned that there were two similar specimens in the St. Mary's Hospital museum. He thought it would be very difficult to decide whether the disease had spread by transplantation or along the lymphatics.—Dr. LONGHURST asked if there was any history of cancer in the family.—Dr. HADDEN said that no special inquiries had been made on the subject.

Dr. HECTOR MACKENZIE showed a specimen of Intestinal Concretion which had been passed by a woman aged seventy, who for many years had suffered from constipation. Four months before the concretion was voided it had appeared at the anal orifice after a large dose of salts, but the patient, thinking that some part of her body was coming away, contrived to retain it in the rectum for a time. The concretion was about the size of the astragalus, and weighed 497 grains. Originally it had been larger, some of it having broken off when it was voided. The interest attaching to the specimen arose more from its form and constitution than from its size. It was irregularly cuboidal, and it surface was nearly entirely covered with large crystalline prisms placed parallel to one another in groups, giving the concretion the appearance of a miniature model of a mass of columnar basalt. One of the surfaces was irregularly concave where probably some fragments had been detached, and from this surface a hard, bony-looking knob projected, which was no doubt the nucleus. Chemical examination showed the crystals to be formed of ammonio-magnesian phosphate, while the bony nucleus was hard like ivory. Sixteen years previously the patient broke one of her upper central incisors and swallowed the fragment, which might account for the nucleus.

Mr. J. JACKSON CLARKE showed a specimen of Lymph-adenoma affecting the Spinal Cord, Vertebræ, and Lymphatic Glands, from a woman aged twenty-four, who first noticed a lump in the neck fifteen months before death, which was due to bedsores and exhaustion. At the same time there was slight pain in the back and over the lower ribs of the left side. Six months before death the abdominal prevertebral glands were enlarged and adherent to the vertebræ. Both in the neck and in the abdomen the glands varied in size from time to time. Four months before death the patient could walk, and felt well. A fortnight later she was admitted to St. Mary's Hospital, under Dr. Lees, with inability to walk. Pain and spasm continued, and the patient died with large bedsores. The affected lumbar glands were matted together and adherent to the vertebræ, which were infiltrated, and the body of the first lumbar vertebra was destroyed. The growth had extended into the intervertebral foramina, along the nerve roots implicating the dura mater, the pia mater, and the spinal cord itself. The histology of the growth was described, and it was pointed out that the growth differed from a sarcoma in that its vessels had walls of well-defined structure.

Dr. WALTER K. SIBLEY read a paper on Inoculated Tuberculosis in Snakes, in which he described the result of some experiments on this subject. While working in the laboratory of Professor von Recklinghausen in Strassburg, he had kept various lower animals inoculated with tubercle at high temperatures, such as snakes, blind worms, lizards, salamanders, newts, and frogs. The results of these experiments were negative as far as the production of tubercle was concerned, but interesting with regard to the temperatures at which these animals might be kept alive. After his return to this country, and while waiting for the necessary permission from the Home Secretary to continue his researches, he conducted some experiments upon some of the invertebratæ, which do not come under the sympathy of the Vivisection Act. Amongst others, he found that certain forms of land snails could be kept in good condition at temperatures of 30° to 35° C. These he inoculated with tubercle, but here again he was not able to demonstrate the presence of tubercle after death. The experiments he next described were begun at the Brown Institution, and continued at the King's College Bacteriological Laboratory. The snakes used were the common English ring snake and the common viper. These were inoculated with pure cultures of tubercle bacilli, grown on agar-agar and glycerine, and then placed in incubators regulated to about 33° C. The snakes, however, all died within a few days. After repeated observations, it was found that they died from suffocation, the space in the incubators when closed for many hours being too small for them to live in. After this the snakes were kept in glasses open at the top, and these were placed in a large zinc bath half full of water, and the water was kept at a temperature of about 35° C. by means of a small regulated gas-burner placed underneath. After many negative attempts he finally succeeded in producing tuberculosis in four specimens, two of which he proceeded to describe under the terms B. and C. Snake B. was inoculated with bacilli on June 14th, July 8th and 22nd, 1890. The reptile died fifty-two days after the primary inoculation. There was but little to be seen with the naked eye; the liver contained some exceedingly minute specks, and the lung in its middle third had considerable necrosis of its lining endothelium, together with some miliary deposits on the internal surface. Microscopically, the liver unstained showed a number of small, dark, exceedingly granular areas, each consisting of some ten to thirty round cells, containing in their interior some granular pigmented material. These groups were most of them round or oval, and evenly scattered throughout the organ. On staining with any of the ordinary methods for tubercle bacilli, each of the cells in these groups was seen to be crowded with these organisms. The lung showed deposits composed essentially of granulation tissue, with, in some areas, caseous degeneration in the centres. On staining for bacilli, in many parts of the lung there were found small isolated round groups of these, and often the bacilli were seen to be arranged in a ring around the periphery of the cells. In other parts of the lung more extensive inflammatory changes had taken place, and in these regions large areas of caseous granulation tissue with great numbers of tubercle bacilli were seen. Another specimen, snake C., was inoculated, and died seventy-one days after the primary inoculation. In this much the same appearances of the viscera were found, only the deposits were most of them somewhat larger and more advanced. In this case the spleen as well as the liver showed some few deposits containing tubercle bacilli. He concluded by remarking that, after the case of spontaneous tuberculosis in a snake described in a former paper, and as the result of these recent experiments, tuberculosis could no longer be considered to be a disease confined to the higher or warm-blooded animals. The same disease, under certain circumstances, could be produced in cold-blooded ones; in fact, there was no *a priori* reason why it should not be produced in some of the invertebrata, and he had already carried on some experiments in this direction, the results of which he hoped to publish before long. The question as to the real significance of these experiments was finally discussed—as to whether the disease tuberculosis had been produced, or whether only pure cultures of the tubercle bacilli growing in the animal body had been obtained—that is to say, if the snakes might not be looked upon in the light of test-tubes, containing a nutrient medium, and in or on this the tubercle bacilli had simply been cultivated. The various stages of the process, as shown by the experiments, was traced up, from single leucocytes containing bacilli to groups of the same, and so on to areas with more or less inflammatory change occurring around the central deposit and thus constituting a true tubercular granuloma.—Dr. WOODHEAD desired to know the precise pathology of the changes which were found in the snakes' lungs. He asked if typical infective granulomata were formed, or if there was only a catarrhal process present. He said that a short time ago there was published in America an account of the result of injecting dead tubercle bacilli, and it was stated that typical granulomata were formed. This discovery, if true, was very important: that tubercular granulomata could be formed without the presence of living tubercular bacilli. By the same authority it was also stated that dead tubercular bacilli were capable of being stained by Neilson's method.—Mr. SHATTOCK said that tubercle was a condition independent of macroscopic morbid change of tissue. The real test of tuberculosis was not the presence of the bacillus, but the demonstration of the presence of the toxic albumoses formed by the tubercle bacilli in the tissues of the host. In fact, when an animal was killed by the intra-venous injection of these albumoses into it, that animal might still be said to have died of tuberculosis.—Dr. SIBLEY, in reply, said that when single cells could be seen here and there full of tubercle bacilli, without any change whatever demonstrable in the surrounding tissues, it was questionable whether the animal could be said to be suffering from tuberculosis.

Dr. TIRARD showed a specimen of Tuberculous Growth in

one Ureter, with consecutive changes in the Kidney, occurring in a boy aged five years. The patient had been admitted to the Evelina Hospital for Sick Children on account of general dropsy, and it was stated that during the week before admission the urine had been of a bright red colour, offensive and scanty. The œdema speedily passed off, but the character of the respiratory sounds, frequent diarrhœa, and oscillations of temperature led to a diagnosis of general tuberculosis, and the child eventually died a fortnight after admission. The urine was repeatedly tested, but was always found free from albumen and faintly acid. The specific gravity varied from 1010 to 1020. At the post-mortem examination both lungs were found infiltrated with tubercular nodules, and there were numerous recent adhesions between the lungs and the chest walls, and between the adjacent lobes. The peritoneum was thickly covered with tubercles, and the different coils of the intestine were firmly adherent. Tubercles were also found on the surface of the liver and spleen. The left kidney appeared larger than usual, the pelvis much distended, and a considerable amount of urine escaped during its removal. On section the medulla was found to be thinned down somewhat, and very pale. The apices of the pyramids were much atrophied. The calices and the pelvis were widely dilated. In the left ureter a hard nodule existed about the junction of the upper and middle third of the tube, which was dilated above this point and constricted below. A probe could not be passed beyond the nodule without forcible pressure. On slitting up the ureter it was found to be studded with small tubercles, and, at the nodular swelling, to be completely surrounded by a rugged surface, hard and rough, apparently from the deposition of salts. The right kidney was relatively large and firm; the capsule stripped off easily; on section it showed deep congestion. Microscopic sections of the left kidney, prepared by Mr. Arthur Cheatle, were exhibited, and showed the usual appearances of "obstructive nephritis" or consecutive renal cirrhosis; the epithelium in the tubes near the glomeruli was swollen, opaque, and granular, that in the straight tubes somewhat atrophied, and a relatively large number of nuclei was found over the Malpighian tufts. Dr. Tirard remarked upon the occurrence of dropsy in this case, comparing it with the acute œdema without albuminuria sometimes seen after scarlet fever. He also directed attention to the fact that, although a tubercular growth was found in the ureter, no tubercles could be seen on the mucous surface of the bladder.

The following card specimens were shown:—

Dr. P. ABRAHAM: Feet of supposed Leprous Ducks from South Africa, with microscopic sections.

Mr. J. J. CLARKE: 1. Charcot's Disease of Hip-joint. 2. Spondilolisthesis.

Dr. HEBB: 1. Ulcers of Duodenum from an infant three months old. 2. Microscopical appearances of Heart Muscle in a case of Delirium Tremens.

Dr. J. GALLOWAY: Peculiar Cyst in Brain, probably resulting from old hæmorrhage.

CLINICAL SOCIETY OF LONDON.

Hæmorrhagic Pericarditis treated successfully by Aspiration.—Aneurysm of a Right Aortic Arch.—Uræmic Cutaneous Eruption.—Nephrotomy.

AN ordinary meeting of this Society was held on Nov. 13th, Sir Dyce Duckworth, President, in the chair.

Dr. CHURTON of Leeds read a paper on a case of Hæmorrhagic Pericarditis, in which repeated aspiration was followed by recovery. A man aged forty-six, well made, of quick intelligence, was admitted into the Leeds Infirmary on July 24th, 1890, with dyspnœa and pain in the chest. There were signs of fluid in the right pleura and in the pericardium. The chest wall was distinctly œdematous; no œdema elsewhere. Patient had taken very little solid food for fifteen years, living chiefly on beer and whisky, but had no illness until the last seven weeks. Twenty-nine ounces of clear fluid were withdrawn from the right pleura without giving any relief. (Five subsequent attempts to substitute tapping of pleura for aspiration of pericardium always similarly failed to effect any improvement.) The pericardium was then explored (1) in the left fifth space, just external to the mammillary line; (2) half an inch nearer the median line; (3) in the right fifth space, an inch from the edge of the sternum. Deeply blood-stained fluid was found at each point. The pericardium was then aspirated by Mr. Mayo Robson in the left fifth space, in the nipple line, eight ounces being obtained. The fluid deposited one-twelfth blood-cells. Next day (July 27th) the resident surgical officer, Mr. Moynham, again aspirated, and although only three ounces were withdrawn, the pulse fell from 128 to 90. The improvement was as transitory as before. On the 28th there was marked "respiratory pulse." Aspiration was attempted on the right of the sternum, but, owing to a misapprehension, in the fourth space, and perhaps not sufficiently deep; only two drachms of the fluid were obtained. The author, like many others, had frequently observed in the post-mortem room that fluid in large quantity and free in the pericardial cavity was collected in three chief pools—one in the right lower angle, another in the left, the third at the upper part of the cavity; and as it was evident that a needle passed too deeply into either of the lateral pools would merely pass harmlessly through the back of the pericardium into the lung, and as measurements showed that this point would, in a distended pericardium, be about two inches and a half from the surface, he, on Aug. 8th, passed an aspirating needle to a depth of two inches in the left fifth space, in the nipple line; twenty-two ounces of similar fluid were thus obtained. The chest was raised before the aspiration in order to bring more of the fluid to the lower part of the pericardium. The relief, though great, was again of short duration, as the patient had almost invincible anorexia and could take alcohol only. A failing pulse, rapidity of breathing, lividity, prostration, and lethargy compelled aspirations to be repeated on Aug. 10th, when four ounces and a half were withdrawn; on the 11th three ounces and a half, and on the 13th two ounces. By this time he was taking some food, and either reaccumulation was slower or the heart stronger, so that no further aspiration was necessary until Aug. 23rd. Loud pericardial friction was heard for a few days after Aug. 10th. Compression râles were heard in the left lung overlying the pericardium on Aug. 17th. On the 22nd he is described by Mr. E. B. Hulbert, house-physician, as "rambling, moaning, pallid, and wan; seems unconscious, but is easily roused for a few moments; excreta are passed into bed; radial pulse 100, scarcely perceptible; respiration 36; compression râles persist." Next day slow aspiration at a depth of two inches, a quarter of an inch internal to the nipple line, obtained in three-quarters of an hour forty-six ounces and a half. The heart was then felt grating against the needle, but its point being curved and carefully turned towards the left no harm was done. The pulse improved much; dulness disappeared from the right of the sternum; the compression râles were lost; but in three days he relapsed, and it was thought necessary to withdraw eight ounces; again on the 31st, five ounces and a half; on Sept. 6th, nine ounces; and on the 11th, at the thirteenth and last aspiration, two ounces of fluid depositing only one-twentieth its depth of red cells. On Sept. 2nd dry cupping of the præcordia was ordered to be done daily. Apparently this had a good effect; the fluid soon became evidently less; there seemed to be some present, however, even in January, 1891. The patient was in bed six months and in the hospital eight months, after which he was at a convalescent home for six weeks. The temperature was usually subnormal—97° morning, 98° evening,—and only once reached 100°. Undoubtedly he became worse and more prostrate after the tappings of the pleura and the aspirations of the pericardium were begun, and this was apparently because he could take no food to replace the loss to the blood by reaccumulation in the sacs, and to repair the abnormal tissues. At first he lived almost wholly upon alcoholic fluids of various kinds; afterwards his diet was unusual for an invalid—roast duck, pork pie, sardines, tomatoes, dried haddock, kippered herrings, besides oysters, lamb, and other more ordinary things—whatever, in short, he could possibly be induced to accept. The effects of alcohol were closely watched; it was found indispensable. He was often reported to be dying, and two or three times even dead, but brandy or whisky freely given, and soon followed by aspiration, always restored him. Peritonitis with friction sound and pain occurred on Aug. 11th over the enlarged liver. Leeches relieved the pain and tenderness. The liver was large in December. The pulse and respiration did not always vary in rapidity together. Phlebitis appeared in the right popliteal vein on Aug. 18th, and in the left on Aug. 26th. The œdema of the chest wall had disappeared on Sept. 4th. Purulent urethritis was

observed on Sept. 20th; it readily yielded to zinc injections. Except at this time, the urine was not as a rule albuminous. There was no marked perspiration. The author thought it would be well in any similar case to begin dry cupping at a much earlier date, and to secure the patient's appetite before commencing aspiration. So much difficulty in this part of the treatment was not anticipated. Cases of personal observation were referred to which showed that the fluid could, and must sometimes, be aspirated from the right fifth space, an inch beyond the sternal line. In one case observed by the author twenty-five ounces of bloody, semi-purulent fluid lay wholly to the right of the heart in the pericardial sac, the heart being itself adherent to the left side and front of the sac. Reference was also made to an important discussion at the Clinical Society on Nov. 23rd, 1888. In a postscript to the original paper it was stated that on returning to work (without leave), and to his former habits as to diet, the patient became ill after a month, was re-admitted with a small pleural but no pericardial effusion, and died suddenly on the second day. At the necropsy the heart was found universally adherent to the pericardium; the pericardium was adherent slightly to the left lung, firmly to the right lung; the base of the right lung was firmly adherent to the diaphragm, which in turn was firmly adherent to the liver. It was merely a nutmeg liver; there was no cirrhosis. The arteries showed scarcely any atheroma. The kidneys were rather hard, but apparently sound, resembling organs from a case of initial disease. The valves of the heart were normal.—Dr. BURNEY YEO asked if any efforts were made to stimulate the heart by direct tonics. The administration of digitalis, strophanthus, or nux vomica might possibly have obviated the necessity of giving so much alcoholic stimulant, and digitalis often acted as a hæmostatic. He recommended pounded raw meat to be given in soup, brandy-and-water, or wine-and-water. A preparation of powdered beefsteak used in Paris was also of value.—Dr. BENHAM asked why aspiration was so frequently done. He thought it would have been better to have opened the pericardium freely as in Dr. Dickinson's case, which was successful. Free blistering was also of use.—Dr. CHURTON, in reply, said that numerous drugs had been tried without effect. Steel, quinine, digitalis, &c., were found to be useless, and only alcohol appeared to stimulate the heart. Brand's essence had been given, but raw meat was not tried. He did not freely open the pericardium, as he was afraid of setting up a drain from the damaged endothelial lining. The aspiration of the pericardium was always found to give relief, whereas drawing off the fluid from the pleura rather exaggerated than relieved the cardiac symptoms.

Dr. HERRINGHAM related a case in which a right aortic arch passed behind the œsophagus to the left side of the spine, and caused death by becoming dilated and slowly compressing the trachea. A man aged thirty-nine enjoyed good health up to the spring of 1890; he was then seized with a cough, to which were added dyspnœa and hoarseness in June, 1890. The dyspnœa became so severe that he was admitted to the West London Hospital in August, 1890. He lay for some months in a surgical ward, and first came under the author's observation in November. He had by this time had some hæmoptysis, and the dyspnœa was rather better than worse since admission. The right side of the larynx was completely paralysed; this explained the hoarseness. There was severe inspiratory dyspnœa, which could only be referred to tracheal obstruction. As there was no organic disease in the larynx or neck, the laryngeal paralysis was referred to the same cause as the tracheal obstruction, and this was conjectured to be some new growth or aneurysm within the thorax. Its situation was doubtful. The first part of the subclavian, which was suggested by the paralysis of the recurrent laryngeal nerve, was rendered unlikely by the absence of any abnormality of the pupil, which argued that the annulus of Vieussens was not compressed. Beyond slight dulness at the inner end of the first right intercostal space, nothing abnormal except emphysema and bronchitis could be discovered in the chest. The signs and symptoms remained unchanged, and in December some dysphagia was noticed. Worn out by sleeplessness and the continual labour of breathing, the patient sank gradually, and died of exhaustion in February, 1891. The symptoms were found to be due to a fusiform dilatation of the aorta reaching from the ascending part of the artery to the origin of the cœliac axis. Instead of passing in front of the trachea as usual, the right aorta had been preserved, and this, to reach the normal position on the left of the spine, passed to the right of the trachea and œsophagus, and then between the œsophagus and the vertebræ. Becoming dilated, it pushed forward, bending the trachea over it, and thus compressing its lumen and obstructing inspiration. The recurrent laryngeal passed, as is usual in this variety, under the aortic arch instead of under the subclavian artery, and was thickened and adherent to the dilated vessel. This explained the paralysis of the right side of the larynx and the escape of the right pupil. That the œsophagus was not earlier or more severely compressed was probably due to its softer and more yielding nature. No adhesion had taken place between the aorta and either windpipe or gullet: the hæmoptysis was not therefore due to any direct leaking from the aneurysm. The specimen, which was now in the museum of St. Bartholomew's Hospital, was believed to be quite unique, only twenty instances of the anatomical variety being known, none of which were described as aneurysmal.—The PRESIDENT asked if the patient was temperate, and if there was a history of syphilis or gout.—Dr. HERRINGHAM replied in the negative.

Dr. LE CRONIER LANCASTER contributed notes of eight cases of Uræmic Eruption of the Skin. The object of the paper was to draw attention to certain peculiar states of the skin associated with a uræmic condition of the blood. The eruption, which occurred principally in cases of chronic interstitial nephritis, first appeared as maculæ and papulæ of a bright-red colour upon the extensor surfaces of the hands, forearms, and legs, and then rapidly spread over the whole body. In a few days one of three changes occurred in the rash: 1. It gradually subsided with extremely free desquamation, leaving the underlying skin brawny and thickened. 2. It became eczematous, with free exudation of a gummy fluid, which dried, and formed scabs and crusts. 3. In the severer cases pustulation or even the formation of small abscesses followed the eczematous stage. Severe itching usually accompanied all stages of the rash. The eruption was generally of grave prognostic significance; in seven out of the eight cases it was followed by death within five weeks from its first outbreak. An abstract of those cases in which this eruption had been seen was read, and the microscopical appearances of the diseased skin detailed. In considering the etiology of the eruption, its analogy with skin rashes due to pyæmia, ptomaines, and drugs was pointed out, and the suggestion made that the uræmic eruption was a trophoneurosis, due to the presence of one or more toxic principles circulating in the blood, which the diseased kidneys had failed to excrete.—Dr. MOTT referred to a case which he had already published in THE LANCET of a man in Charing-cross Hospital, in whom one kidney had been removed and signs of suppression of urine supervened. An erythematous eruption and jaundice developed. He was at first inclined to attribute the rash to the jaundice, but further reflection led him to believe that it might be of uræmic origin, especially as an analysis of the blood seemed to favour this view.—Dr. WILBERFORCE SMITH remarked on the eruptions of the specific fevers. They might be due to the action of chemical products formed by the agency of microbes, and if so they would come under the same head as the rash under discussion.—Dr. BARLOW had seen a case like those described. It began as an erythema, like dermatitis exfoliativa, and as it was clearing off there developed papules, some of which became hæmorrhagic. Dr. Pye Smith, in a paper on Chloralamid Rash, referred to several of these eruptions. He doubted if "uræmic rash" was a good name; his case was not uræmic, and these eruptions had been observed in cases of interstitial nephritis in which there were no uræmic symptoms.—The PRESIDENT confessed himself familiar with these rashes in cases of Bright's disease; he had remarked that they were aggravated by the administration of iodide of potassium.—Dr. LANCASTER, in reply, said he had found these cases much more fatal than was to be inferred from Dr Pye-Smith's paper.

Mr. MANSELL MOULLIN read a paper on two cases of Nephrotomy. The first was one of total suppression of urine in a patient, aged about forty, under the care of Dr. Mulvany. Nothing had been passed for seven days, and the bladder was perfectly empty. The attack began suddenly with pain in the left loin running down to the iliac fossa, nausea, and faintness. In a day or two this subsided. Bodily strength and mental vigour were apparently unaffected. The pulse was good both in volume and tone. The left loin was tender on pressure, but no other evidence

could be obtained by physical examination. There was a history of a previous attack of a similar character (on which side was unknown) some years before; but on that occasion the obstruction yielded on the sixth day with the passage of gravel and blood-stained urine. It was clear that for many years there had only been one working kidney, and that this had suddenly been rendered useless, probably by the impaction of a calculus in the upper part of the left ureter. There was no evidence to show what had been the fate of the other kidney, or even if it had ever been developed. The patient refused operation until the beginning of the tenth day. The muscular strength and the pulse, which had both continued fairly good until then, now began to fail so rapidly that abdominal exploration and ureterotomy were out of the question. The only prospect of relief was to drain the kidney through the loin, removing the obstruction if it could be reached without too much manipulation. The patient was accordingly placed under an anæsthetic, and the kidney exposed through an incision parallel to the last rib. The cortex was unusually firm, but perfectly even. It was impossible to reach the pelvis with the finger without enlarging the wound to a very serious extent, so a pair of dressing forceps was slowly pushed through from the anterior surface. The bleeding, which was profuse for a moment, soon stopped, and urine began to come away. Some fragments of gravel escaped, but no calculus could be felt. For some days everything went on well; there was scarcely any fever, and the patient appeared relieved, except from thirst, which continued to be very distressing. The pulse, however, never recovered its tone, and the strength did not return; the wound showed no sign of healing, and death ensued on the twenty-third day from pyelitis and exhaustion. At the post mortem examination no trace of the right kidney or ureter could be found; the left kidney was the normal shape, but much enlarged, measuring eight inches by four; the pelvis was even larger in proportion, and an oval calculus was embedded in the ureter just beyond it, almost in the middle line of the body. Remarks were made as to the best method of operation in cases in which no information could be obtained concerning the condition or even the existence of the opposite kidney, and it was suggested that, provided the strength of the patient would admit of it, laparotomy should be performed first, the subsequent steps depending upon what could be ascertained then. The second case was that of a woman, aged thirty-four, who had suffered from severe renal colic for upwards of two years. The attacks were paroxysmal, and attended with hæmaturia, vomiting, and lumbar pain. The abdomen was very tender on the right side, and the right hip could not be straightened out without causing severe pain. Interstitial nephritis was present, but the pain was so severe that the patient was advised to submit to an exploratory operation. Nothing was found, although the pelvis of the kidney was carefully explored through a lumbar incision. The pain ceased for two days, and then returned even more severely, with occasional hæmaturia. Death ensued from exhaustion on the tenth day. Consciousness was retained to the last, and there were no convulsions. Post mortem both kidneys were contracted and granular, but not to any unusual degree, and the heart was a little hypertrophied, but there was nothing in the right kidney or in the organs near it that could account for the severity of the symptoms. From this, and from the fact that the pain became more intense and the paroxysms more frequent as the patient's strength failed, it was suggested that it was a case of pure nephralgia akin to the neuralgia that sometimes occurred under similar conditions in other parts of the body.—Mr. HOWARD MARSH said he had had a similar case under his own care, and if agreeable to the Society he would prepare a history of the same, and present it in the form of a paper.

HUNTERIAN SOCIETY.

Cancerous Affections of Serous Membranes.—Fatty Tumours of the Groin.—Colds.

A MEETING of this Society was held on Wednesday, Oct. 28th, Dr. Stephen Mackenzie, President, in the chair.

Dr. JAMES GALLOWAY read a paper on Cancerous Affections of the Peritoneum and other Serous Membranes, illustrated by micro-photographs, sections, &c. He first narrated a case. A man aged fifty years, had symptoms for two years and a half—abdominal pain, tumour, wasting, great anæmia with hæmorrhages, and an eruption of hard subcutaneous nodules for three months before death. A firm carcinomatous infiltration of the pylorus was found, with secondary growths in the liver; and the peritoneum, pericardium, and pleura were covered with small growths, besides those in the subcutaneous tissue. Reference was made to their histological characters, and to the situation of the growths immediately beneath the endothelial surface of the serous membrane. When they at length penetrated the myocardium or lung substance the progress was rapid. The involvement of lymph-containing tissues was explained, and the infiltration of the muscular layers of the stomach, the cancer cells compressing and eating away the muscular bundles. There were three chief forms of cancerous growths in the peritoneum: (1) Large masses, tending to encrust the intestine, the lumen often remaining patent, and hæmorrhage being frequent. (2) Pedunculated or polypoid growths, sometimes like currant bunches. These had been attributed to direct implantation on the peritoneal surface, but the author had found in one case the endothelium passing over them intact. (3) Small "tubercle"-like nodules scattered over the membrane, and due apparently to lymphatic spread. Sarcoma of the peritoneum did occur, usually a lympho-sarcoma, with small round cells. Was there ever a primary cancerous growth in the peritoneum? In the many records existing there seemed a small residuum of cases in which apparently carcinomatous granules in the peritoneum (which was mesoblastic) could not be demonstrated to be secondary to growths in epiblastic or hypoblastic tissues. Hertwig's view of the development of the body cavity by infoldings of the primitive alimentary cavity would, however, give a hypoblastic lining to the peritoneum. The question must be left doubtful.—The PRESIDENT referred to the clinical features of the third type of cancer of the peritoneum—cases of chronic ascites, often very difficult to distinguish from those due to cirrhosis of the liver.—Dr. FRED. J. SMITH thought Cohnheim's doctrine of the origin of new growths from certain embryonic layers was becoming more and more impugned. The "law of partnership," as expounded by Hutchinson, would be found to account for much. He deprecated the use of the term "tubercle" except in cases where tubercle bacilli were demonstrable.

Mr. J. HUTCHINSON, jun., contributed a paper on Fatty Tumours of the Groin, showing a specimen of a mass, 11 lb. in weight, removed from an old woman aged eighty years. It hung down nearly to her knees. The operation was not difficult, and healing was good. In another case a man had a large diffuse lipoma nearly covering the genitals, besides other large masses in the neck and back. He removed the pubic tumour successfully; the others had slightly diminished under dieting. Subperitoneal lipomata sometimes passed down through one of the rings, the precursors of hernia. Cases of so-called third testicle were often lipomata.

Dr. GILBERT read some remarks on Colds, including all disorders ascribed to cold as the cause. Allusion was made amongst some practical and suggestive observations to the effect of cold on old persons and on infants, and to the part taken by cold in the causation of rheumatism and of pleurisy.—Dr. DUNDAS GRANT discussed the subject, and said that many persons were like uncompensated watches, liable to suffer from incidental changes of temperature.

CLINICAL SOCIETY OF MANCHESTER.

A MEETING of this Society was held on Oct. 20th, Dr. Braddon, President, in the chair.

Congenital Heart Disease.—Dr. RAILTON showed two patients suffering from congenital heart disease. The first, aged four years and a half, showed blueness of the lips and tips of fingers and toes since birth. There were occasional dyspnœa and palpitation, otherwise the child had enjoyed fair health. There was slight clubbing of the finger tips. The absolute cardiac dulness extended from the left nipple line to the right side sternal line, and upwards to the second left rib. A systolic murmur was audible over the whole cardiac area and upwards towards the left shoulder; the maximum was in the fourth left interspace close to the sternum. The second patient was a boy six years old who had shown no symptoms of disease until a year ago, when the abdomen began to swell. On admission into the Manchester Clinical Hospital for Women

and Children he was found to have a large quantity of fluid in the abdomen, the liver extended nearly to the level of the umbilicus, and had a hard but even edge. There was no jaundice. The lips and ears showed a little blueness, the cheeks were slightly congested. There was a little clubbing of the ends of the fingers and toes. The spleen was not to be felt. There was a trace of albumen in the urine. The lungs appeared to be normal. The cardiac dulness was not increased laterally, but extended upwards to the third left rib. The impulse of the right ventricle was visible over the epigastrium. There was a constant reduplication of the first sound audible over the right ventricle, but no murmur. There was no distension of the jugular veins during inspiration, no pulsus paradoxus, and no recession of the chest wall during systole. There was no history of syphilis or alcohol. Dr. Railton submitted that this case, though undoubtedly very obscure, was, in the face of no history of chest mischief since birth being forthcoming and with the symptoms as described, more easily explained on the supposition of congenital heart disease than mediastinitis or mediastinal growth.

Dislocation of Semilunar Cartilage.—Mr. F. A. SOUTHAM showed a patient who had suffered from frequently recurring dislocation of the right external semilunar cartilage Attempts to fix the cartilage by keeping the knee at rest having failed, the joint was opened, and the cartilage, which was much thickened and completely separated from its anterior and lateral attachments, was removed. The patient rapidly recovered from the operation, which had been performed eight months previously. There was now free movement in the knee, and there had been no recurrence of the attacks of pain and locking of the joint to which he had been liable previous to the operation.

Erysipelas of the Face.—Dr. OWEN mentioned a case of erysipelas of the right side of the face, affecting chiefly the eyelids, and followed by abscess of the upper part of the orbit, paralysis of the left arm and leg, optic neuritis, and death. The patient was a man aged forty-five. There was no cardiac disease, albuminuria, or history of syphilis. He had been strictly temperate in his habits. The onset of the paralysis had been extremely gradual. Dr. Owen attributed the paralysis to direct extension of the orbital inflammation to the meninges of the brain, resulting in a purulent meningitis.

Dr. JAMES HOLMES showed a new form of Stethoscope.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this Society was held on Wednesday, Nov. 4th, Mr. A. R. Anderson, F.R.C.S., President, in the chair.

Large Chronic Abscesses of Tubercular Origin.—The President gave his address under the above title, confining his remarks to large chronic collections of matter occurring or pointing about the hip or pelvis. The pathology of the disease was discussed, the speaker expressing his belief that the majority of these cases were due to a primary tubercular focus originating in the spine or pelvic bones, and that localisation of the disease in bone was due to infection through the blood. The experimental and other evidence in favour of this view was referred to. In discussing the question of treatment, the danger incurred from the risk of the dissemination of the disease if left to itself was insisted upon, and the intimate relation existing between the tubercle bacilli and the bloodvessels (veins) of the bone was alluded to, showing how great was the probability of this occurence when the bone infection was progressive. Two methods of treatment were discussed—viz., the evacuation, washing out, and injection with iodoform of these cavities; and secondly, that by incision and removal of the disease. In cases where the abscess cavity was intact, the second method was recommended to be employed only after failure of the first. The injection of iodoform was favourably spoken of, and allusion was made to the large measure of success that had been obtained in the series of cases reported by Billroth, Bruns, and Jasinsky. The iodoform preparation employed by the speaker was an emulsion in oil, two drachms of it being injected. No unpleasant symptoms had ever been observed after the injection of this quantity of the drug, and it was considered that a larger quantity might safely be used. With respect to opening up the abscess cavity, the author insisted on the necessity of not only clearing out all the granulation tissue and cheesy masses from the interior of these cavities, but on the removal of the primary focus of the disease as well. He related a series of cases in which he had performed extensive operations with this object, in some after failure with the iodoform injection. In most cases a permanent cure resulted; the most extensive operation being one on a case of double psoas abscess discharging from openings in each loin and groin, and in which the whole of both psoas muscles, the loins, iliac fossæ, and upper part of the thighs were involved in the disease, which had originated from a limited tubercular focus in the second lumbar vertebra. The great importance of preventing the entrance of pus microbes into these cavities during the long period of treatment that is often required was alluded to. A vote of thanks to the President for his address was proposed by Mr. Joseph White and seconded by Mr. Hatherley.

Reviews and Notices of Books.

The Ophthalmoscope: a Manual for Students. By GUSTAVUS HARTRIDGE, F.R.C.S., Surgeon to the Royal Westminster Ophthalmic Hospital. With sixty-three illustrations. London: J. & A. Churchill. 1891.

MR. HARTRIDGE is well known to have devoted much time to the study of the refraction of the eye, and to be highly accomplished in the use of the ophthalmoscope. He has had large experience in teaching the use of this instrument, and his untiring patience and urbanity in explaining the principles of opthalmoscopy are familiar to many students and practitioners. In the present work he places before the profession the results of his long practice, and has supplied a want that many must have felt. Mr. Hartridge divides his subject into the nine following sections:—The optical principles involved in the use of the ophthalmoscope; the ophthalmoscope; methods of examination; the appearances of the normal fundus; the cornea, anterior chamber, iris, and lens; the vitreous; the choroid; the optic nerve; and, lastly, the retina. The first chapter on the optical principles involved in the use of the ophthalmoscope is clearly written, not too diffuse, and is illustrated by some of the best woodcuts it has been our fortune to see. The nature of real and inverted images is particularly well explained, and cannot fail to be understood by the dullest mind. Mr. Hartridge recommends no special ophthalmoscope. For dilatation of the pupil he employs a solution containing four grains of hydrobromate of homatropine, with ten grains of hydrochlorate of cocaine, a drop of which produces a full dilatation in a very short time, whilst the effect passes off in two or three hours. As an example of Mr. Hartridge's clear way of stating facts, we abstract his remarks on astigmatism as recognised by the indirect method of examination: "In astigmatism the disc, instead of appearing round, is frequently oval. If one meridian decreases while the other remains stationary as the objective is withdrawn, it is a case of simple hypermetropic astigmatism. If the whole disc decreases in size, one meridian diminishing more than the other, it is compound hypermetrophic astigmatism, the meridian being most hypermetropic which diminishes most. Increase in one meridian, the other remaining stationary, indicates simple myopic astigmatism. Increase in disc, but one meridian more so than the other, indicates compound myopic astigmatism, that meridian being most myopic which increases most. If one meridian increases while the other decreases, the case is one of mixed astigmatism."

Very full directions are given as to the mode of making the direct examination, and the author very properly points out that the estimation of the refraction by this method is exceed-

ingly valuable, since the patient need not be subjected to the inconvenience of having his accommodation paralysed with atropine, but that it requires great practice. The essential point to remember is that the glass with which the vessels in one direction are seen is a measure of the refraction of the meridian at right angles to them. Four chromolithographs give the various aspects that may be presented by the normal fundus, and there is a good chapter on retinoscopy. The remaining chapters supply the information that a beginner requires without entering into minute and useless details.

A Practical Text-Book of the Diseases of Women. By ARTHUR H. N. LEWERS, M.D. Lond., M.R.C.P. Lond., Assistant Obstetric Physician to the London Hospital. Third Edition, with 146 illustrations. London: H. K. Lewis. 1891.

THE text-books on diseases of women, which succeed one another with extraordinary rapidity, showing the growing interest taken in this department of medicine, may be divided into the larger and the smaller. Dr. Lewers's book belongs to the latter class, and the present, which is the third, edition is published as one of Lewis's excellent practical series. We have read it with much interest, and can recommend it as a most excellent manual, thoroughly practical, carefully written, and up to the latest advances in this most progressive branch of medicine. All through the book the author gives one the impression that he has seen what he is writing about, and that he has availed himself of the immense clinical material at his disposal at the London Hospital. A specially useful feature of the book is the admirable series of illustrative cases which are recorded in different places, and of which Dr. Lewers gives a synopsis in the present edition. Many of these are just the class of cases which are so perplexing to the student and to the practitioner. Amongst the best chapters in the book we would mention those "On the Mode of Investigating a Case," in which the important value of the catheter as a diagnostic instrument is dwelt on; "Bleeding"; "Fibroid Tumours"; "Diseases of the Fallopian Tubes"; and "Diseases of the Ovaries," where there is a good account of ovariotomy.

Dr. Lewers seems to have a great opinion of iodine. In corporeal endometritis (p. 161), after curetting, he recommends the application of the tincture; and at p. 294, speaking of the methods of disinfecting the hands in obstetric practice, he advises, after the washing of the hands with the aid of the nail-brush, their being dipped, before making a vaginal examination, either in corrosive sublimate (1 in 1000) or in iodine water (two to four drachms to one pint). We would certainly prefer the corrosive for disinfecting the hands. Again, at p. 369, he says, in reference to ovariotomy, "If much blood or fluid from the cyst have escaped into the peritoneum, it is best to wash out the peritoneal cavity by pouring in iodine water (one drachm of tincture of iodine to one pint)." We think Mr. Tait has proved, and experience has abundantly shown that he is correct, that for flushing the peritoneum nothing is so good as simple warm water without any addition. Iodine water is also the antiseptic Dr. Lewers usually employs when one is necessary for vaginal douches. In conclusion, we have again to say that we can recommend this volume as a useful text-book on diseases of women.

Jefferson's Physician's and Surgeon's Register. Bristol: Wright & Co.

THE accounts of medical men are, owing to the exigencies of their time, frequently to be found in a condition which does but little credit to their financial ability or to the industry of those to whose charge this department has been delegated. This unsatisfactory condition of things is very often due to circumstances which are capable of easy remedy. There are in existence at the present time some fifty or sixty systems, more or less complicated, of what is termed "medical bookkeeping," and this variety, owing to the multitudinous kinds of medical practice, is, perhaps, not without its excuse. Nevertheless, it is easy to imagine the feelings with which a wearied practitioner sits down to his "accounts" after the fatigues of a day, especially if he has to face several pages of the now happily antiquated "day-book" requiring to be posted into the musty "ledger." The cry is continually going forth from these unwilling scribes, "Give us something easier, something whereby we can see at a glance the position of our finances with the least expenditure of time and trouble." The task of medical bookkeeping becomes more complicated when the general practice is conjoined with a "club," or if the "fees" have to be gathered by collectors. The profession, therefore, will welcome the appearance of a book which is at once a self-posting and indexing, monthly, quarterly, and yearly day-book, ledger, cash-book, and memorandum-book. It further contains an obstetric record for some 200 names. In this volume there is room for 2600 accounts, and the writing of the patient's name occurs but once in one year, or by the omission of a line once in two years. The account is carried on in one line, and there is ample room for as many as nine visits in a day. These accounts can be issued either quarterly, half-yearly, or yearly without any extra labour. A new feature of the system is that at the top of each page tables of abbreviations are placed, and are arranged according to an extremely simple and intelligible plan. Another new feature consists in a section being devoted to the record of the casual patients and the monthly cash accounts and receipts arising therefrom. From careful observation of the volume, we feel justified in recommending it to the profession as a thoroughly workable system suitable for the accounts of family patients, of club patients, and also for those accounts—and this is by no means an unimportant item—which require to be collected. The book will afford a convenient means of checking both charges and credits, and will be a source of consolation to many who are at present harassed by the worries of complicated and cumbersome bookkeeping.

OUR LIBRARY TABLE.

Die Untersuchung des Auswurfs auf Tuberkelbacillen. Von Dr. Med. EUGEN CZAPLEWSKI. Jena: Verlag von Gustave Fischer. 1891.—The amount of work and attention that has been bestowed on the examination of phthisical sputum for tubercle bacilli, and the importance of its thorough investigation, amply justify the appearance of this work. Dr. Czaplewski, whose opportunities for the examination of tuberculous material have been great, has certainly availed himself to the full of his opportunities, and, as the result of his observations, has placed before the reading practitioner a work which cannot fail to prove of very great assistance. Nothing is left to the imagination, the author going very carefully over the whole ground of the subject of which he treats. He points out generally the importance of the examination of the sputum from tuberculous patients, describing briefly its general characters, the method of making preparations, the various methods of decolourising and counterstaining, and then enumerates and differentiates what have been found in these preparations, describing them in brief under the headings of "tubercle bacilli," "cellular elements," and what he calls "foreign organisms." He also indicates the lines on which a diagnosis may be made, and a prognosis given, from the appearances presented in microscopic speci-

mens. A small supplementary note on the appearance and diagnostic value of elastic fibres in the sputum completes the first part of the work, and a very complete literature of the subject, with abstracts of the individual papers or of groups of papers, is appended. This should prove of special value to anyone working at the subject, or to anyone interested in the history of the development of the tubercle bacillus question. The plate of thirty-one figures appears to be accurately drawn and reproduced.

The Frog: an Introduction to Anatomy, Histology, and Embryology. By A. MILNES MARSHALL, M.D., F.R.S., Professor in the Victoria University. Fourth Edition, Revised and Illustrated. Pp. 163. Manchester: J. E. Cornish. London: Smith, Elder, and Co. 1891.—We have already had occasion to notice with approval this excellent little manual, and are glad to find that it has been found so useful as to demand the issue of a fourth edition. The description of the animal is preceded by a short chapter supplying hints to the student on the instruments required, the mode of dissection, and the preparation of microscopical objects. The work is thoroughly adapted for study, and the directions for the display of the several parts are so clear that they may be followed by the youngest student without assistance. There are nine chapters, which are arranged in the following order: the General Anatomy of the Frog; the Vascular System; Elementary Histology; the Skeleton; the Muscular System; the Nervous System; the Eye and Ear; the Reproductive Organs; and, lastly, the Development of the Animal. There are thirty-six illustrations, some of which—as that of the heart and those exhibiting the process of development—are very good.

Moderne Chemie. Von Dr. LASSAR-COHN. Hamburg und Leipzig: Leopold Voss. 1891.—In this *brochure* the more recent advances that have been made in chemical science are discussed, and much of the space is accordingly devoted to an account of the composition and structure of new compounds like antipyrin, antifebrin, and phenacetin, which are of especial interest to medical men. The work in reality consists of twelve lectures written for the enlightenment of those physicians who may wish to keep pace with modern chemical notions. In Chapter VIII. will be found an excellent argument on Emil Fischer's discovery of the synthesis of glucose. Briefly, it may be of interest to add that the synthetic process consists in the conversion of d-mannonic acid, $C_6H_{12}O_7$, into gluconic acid, $C_6H_{12}O_7$, which is effected by heating the former with quinoline and water. (Mannonic acid is an oxidation product of mannite.) The gluconic acid is purified by treating with phenyl-hydrazine, $C_6H_5N_2H_3$, then converting the hydrazide into the calcium salt and decomposing this by precipitation with oxalic acid. By a suitable treatment with sodium amalgam ($C_6H_{12}O_7+H_2=C_6H_{12}O_6+H_2O$) the gluconic acid yields a sugar which, after sufficient purification, corresponds in every respect to pure glucose. We commend this little work to those of our readers who can find time to devote some attention to the interesting modern facts and theories with which it deals.

IN the October and November numbers of the *Veterinarian* the reports of Section 3 of the International Congress of Hygiene and Demography are continued. The addresses given at the opening of the session at the various veterinary colleges in England and Scotland are reported, and also an account of the interesting celebration of the centenary of the Royal Veterinary College. Professor Wortley Axe contributes a report of the epidemic of diphtheria at East Croydon, with special reference to its relation to an eruptive disease of the cow, which will be read with interest. Mr. W. Awde, President of the South Durham and North Yorkshire Veterinary Medical Association, referring to the recent discussions at the Congress of Hygiene, tells us that the inspection of slaughter-houses and meat as at present carried out is a farce, and that under the existing system of licensing private slaughter-houses it is impossible for the inspector to do more than cursorily examine the animals. This from such an authority is somewhat disturbing. An interesting note on suppuration and its relation to scirrhous cord and strangles is given as read by Professor M'Fadyean before the Midland Counties Veterinary Medical Association. The reprints from other journals are of considerable interest.

"REMOVAL OF FRAGMENT OF STEEL FROM RETINA BY MEANS OF ELECTRO-MAGNET."

To the Editors of THE LANCET.

SIRS,—In recording a case of removal of a fragment of steel from the retina in your issue of Oct. 24th, I stated: "So far as can be ascertained, the only case previously recorded of *successful* removal from the retina are those of Galezowski and Hirschberg." I should have added after "successful removal" the words "with retention of useful vision." In my mind the removal, to be successful, necessitated such result. I was aware that others had attempted and succeeded in removing fragments so situated by means of the electro-magnet, but up to the time I communicated my report, which was in January, 1891, the two I mentioned were the only ones of which I could find records in which useful vision was retained. Mr. Snell records three cases in which he attempted to remove foreign bodies from the retina; in all of these he failed to remove it. In a fourth case, where a fragment had been fixed in the retina, he removed the fragment "some months later," after the foreign body had shifted its position and was presumably lying free in the vitreous. A correspondent in your issue of Oct. 31st kindly gives a reference to a note of Knapp's, but on referring to it I can find no reference to any such successful operation. Mr. Snell tells me he has recorded another case of removal from the retina, but I can find no mention of it in his published cases, and he does not tell me what the resulting vision was. He also informs me that Stevens has recorded a case, but this I have not been able to refer to. Dr. Meighan's case was of course not recorded at the time I wrote my report. It would add much to the interest of his case if he stated whether vision was preserved, and, if so, what amount. Dr. Ferdinands of Aberdeen has written to me, telling me of a case in which he removed a fragment from the retina with temporary retention of vision. He states that six months after dismissal the patient returned with "dense white cataract," but does not state whether any visual perception was retained at that time.

In my correspondence with Mr. Snell, I find that what I considered a distinct modification of his instrument was a modification he had at some time already adopted, though it is not mentioned in his description of the instrument, and, so far as my adoption of it was concerned, was the result of a hint from one of the Cantor Lectures of 1890. In further justification of my idea that the modification was new, I may say that I showed Mr. Snell a rough plan of it at the Ophthalmological Society's meeting in January, 1891, and he at that time did not apparently recognise it as his own modification. In all other essentials, save the "collar" prolongation of the posterior pole, the instrument is after Mr. Snell's published pattern. I may say that the patient operated on in the case I recorded still retains his useful vision.—I am, Sirs, yours faithfully,

Cardiff, Nov. 9th, 1891. J. TATHAM THOMPSON.

THE VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.—With the object of endowing a cot in this hospital, the members, associates, and graduates of "The Children's Salon" have taken Prince's Hall, Piccadilly, for Jan. 13th and 14th, when they will be "At Home" to their friends. Only children will take part in the entertainment, particulars of which may be had of Captain Blount, the secretary, at the hospital.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 21, 1891

THE detractors of the medical profession and those who love to represent it as losing influence should take into their consideration the remarkable list of medical mayors which we published last week. The following fourteen towns have chosen members of the medical profession to fill the civic chair for the ensuing twelve months:—Brighton, Bedford, Lymington, Manchester, Barnsley, Bury, Stratford-on-Avon, Bridport, Chichester, Saffron Walden, Montgomery, Yeovil, Bristol, and Edinburgh. Never before now has a medical man been a Lord Provost of Edinburgh. Now he is not merely a medical man, but an anatomist of standing, and one learned above most in the sanitary side of medicine. Not the least instructive feature in the above list is the illustration it affords of the fact that one man can do so many different things well and in a way to gain distinction amongst his fellow-men. Dr. EWART'S case and Dr. RUSSELL'S are in point. Dr. LEECH has to make the work of mayor of a place like Manchester consort with the work of physician to the Manchester Infirmary, with membership of the court of the Victoria University, the duties of consulting practice, and last, though not least, representation of the university in the General Medical Council. Mr. BLACKBURN, the mayor of Barnsley will have to bring into harmony the work of a district medical officer with that of a chief worker in the St. John Ambulance Association, of the honorary colonelcy of Volunteers, and the surgeon-majorship of the Second Administrative Battalion of the York and Lancaster Volunteer Regiment. The complaint of London vestries is that men of business, or busy men, do not take their share in the important work they have to do. We are glad of the evidence, on which we are commenting, that the members of a busy and anxious profession can find time to serve the public in a municipal way, and in that important sphere make the influence of the profession felt. It is often said that the social influence of the profession is diminishing. The election of fourteen members of the profession to the office of the mayoralty, many of them in our chief towns, is a sufficient refutation of that absurd statement. If medical men be at all true to themselves, and worthy exponents of the truth and light that come to the world through medical science, they will always be able to hold their own in that section of the community that is pleased to call itself "society." In the case of Bury, it was observed that the mayor had first been elected, owing to his training as a medical man, to the chairmanship of the sanitary committee, and from this was raised to the office of mayor. In this direction it is in the power of a medical chief magistrate to do an untold amount of good; and we can only hope that the history of the above towns in the coming year will be marked by sanitary and other enlightened reforms. We must not be understood as anxious that the medical mayor should obtrude his profession too much, or pose as the severe sanitarian. It will rather be in indirect and quiet ways that the value of a medical chief magistrate will be seen, and in attention to reforms whose relations to medicine are not obvious, on questions of public habit, of education, and of recreation; and we cannot but hope that the tone and temper of municipal discussion will sustain no disadvantage in being presided over by a member of a quiet profession, whose ways are deliberative and consultative rather than contentious. The election of fourteen medical mayors in important towns is not only a grateful proof of the esteem in which the profession is held by the public, but is an encouragement to medical men to remember that, despite all the gravity and quietness of their calling, they are still citizens, with the duties of citizens to fellow-citizens and to the institutions of their country. Some critics would shut medical men up as monks, and deny them all free expression of opinion and influence. Such views are of very doubtful character. We have no wish to see medical men enter the petty arenas of party strife. But outside of these arenas there is room for men with knowledge of human nature—not only room, but the greatest need, for men who know the life of men, women, and children, under the widely varied conditions of civilisation, and as no other men can possibly know it.

THE answers of the Council of the Royal College of Surgeons of England to the resolutions passed at the Annual General Meeting of Fellows and Members held in the theatre of the College on the 5th inst., and published in THE LANCET of last week (p. 1134), are deserving of the attention of those who are interested in the reform movement. To the first resolution, reaffirming, in the interests of the College and for the promotion of the interests of medical polity and education, the desirability of removing the disabilities from the Members of the College, so as to enable them, under certain limitations, both to exercise the elective franchise and to sit upon the Council, it was not to be expected, under existing circumstances, that the Council would return anything but a negative reply. It is satisfactory, however, to note that the Council have contented themselves with a simple and straightforward expression of regret that they cannot accede to the request contained in the resolution, and have not, as they did last year, referred the mover and seconder to the resolution adopted by the Council on Nov. 8th, 1888. To have kept repeating that "It seems to the Council best in the interest of the College that the discussion on the subjects which have been in dispute should close with the grant of the Supplementary Charter" would have been equally irritating, inappropriate, and futile. The discussion did not close when the Council first expressed the opinion that it ought to close; it did not close when they repeated the formula last year; and it is not in the least likely to close until some concessions have been made both to the Fellows and to the Members. In the interests of the College, the profession, and the public, it is not desirable that the whole management and disposal of the funds of a great corporation like the Royal College of Surgeons of England should be in the hands of twenty-four surgeons who are practically irrespon-

sible to their constituents. Those who have entered the promised land are naturally inclined to appreciate the wisdom of the advice to rest and be thankful, and are not the persons to initiate changes or accept them with alacrity. This is the *vis inertiæ* which the Fellows and Members have to overcome, and which they have formed associations for the purpose of overcoming; and we very much mistake the spirit which animates those who have been promoting the cause of reform if they can be worn down by temporary checks and disappointments, and are not prepared to face the expenditure of time, money, and labour which will be needed to achieve victory in the struggle. As the second resolution, carried at the general meeting, merely expressed regret that the scheme of the proposed five years' curriculum had not been submitted to the consideration of the Fellows and Members, and did not suggest any further action on the part of the Council, an acknowledgment of its receipt was probably all that its promoters anticipated would immediately result from it. Nor will the supporters of the third resolution (referring the report back to the Council with a request that they would remedy a not unimportant omission and lay the amended report before another general meeting) have any good ground to complain that the Council "see no advantage in holding a further meeting," and refer them to the Secretary's Report in the College Calendar, where the missing record will be found. The proceedings at the general meeting on the 5th inst. were not distinguished by that conciliatory demeanour, that courteous acceptance of official explanations, that readiness to close with a reasonable compromise suggested by a staunch friend of reform, which would commend the idea of a second meeting to the Council of the College even if the matter for consideration had been of sufficient importance to merit further discussion, as obviously it was not.

We have already expressed our opinion that it was a mistake on the part of the supporters of the third resolution to reject the olive branch which Mr. TWEEDY proffered; and we find a proof of the correctness of our opinion in the fact that to the fourth resolution, requesting the Council to have a copy of their report sent by post to each Fellow and Member a fortnight before the annual meeting, the Council have replied "that the resolution is laid before the Council to be considered at a future meeting." This delay in returning an answer to a request which does not in itself involve matter for any prolonged consideration is an indication that a more weighty question will be discussed at the future meeting, to which the unanswered resolution has been relegated. It is well known that the general meetings at the College are not acceptable to influential members of the Council, and two or three years ago one of their number very candidly expressed his opinion at one of the general meetings at the College that it was advisable to abolish them. The propriety of abolishing or discontinuing the annual meeting is the question which the Council will probably consider and determine before an answer is returned to the request contained in the fourth resolution. Had the Council replied in the affirmative, as they naturally would have done if the general conduct of the proceedings had been satisfactory, it would have been bound to hold the annual meeting next year, and therefore the present delay is in itself significant of what is looming in the not very distant future. The abolition of the annual general meeting would be a reactionary measure, which could not fully be justified even by the want of tact and conciliation displayed by a section of the last general meeting. These meetings rest on no statutory obligation, it is true, for they were instituted by the Council to meet the wishes of the Fellows and Members, as expressed in a resolution passed at the College in 1884, and they can be as readily discontinued as they were begun. But when a step onward has been taken, it is a serious measure to withdraw the concession on account of a slight effervescence, which may easily be prevented by coming to an understanding with the Fellows and Members in regard to the rules of procedure. The more dignified course for the Council to pursue is to take no further notice of the ebullition, to comply with the reasonable desire of the Fellows and Members for an earlier publication of the report so as to allow them ample time to digest it before the meeting, to formulate rules of procedure after consultation with the Fellows and Members, and to hold the annual meeting next year as usual. The Council have sufficiently indicated to those who pressed the third resolution that they have gained nothing by their persistence, and if they deprive the Fellows and Members of the only regular opportunity in the year for making their wishes and views known to the governing body, they will be placing themselves in the wrong, and giving a stimulus to an agitation which must prove injurious to the best interests of the College.

THE question of congenital tuberculosis is so important, and the available data on the subject so scanty, that special interest attaches to the case recently reported by M. SABOURAUD of Paris. He points out in his paper that the term "hereditary tuberculosis" has been used in two senses—either to indicate merely a predisposition to tubercle on the part of the child of tuberculous parents, or to imply that the fœtus *in utero* may become affected by the bacillus, and be born with the disease already developed. There is practical unanimity of scientific opinion that tuberculosis is hereditary in the former sense, but very little evidence has been forthcoming to prove that it is hereditary in the latter sense. Experimentation is, however, in favour of this position, and the researches of BANG, JÖHNE, MALVOZ, and others go far to establish the view that, at all events with many of the herbivora, tuberculosis is not infrequently found in the new-born. Experiments seem to have failed with the guinea-pig, and it is still a question whether the direct transmission of tubercle in the sense indicated is an event, as BAUMGARTEN believes, comparatively common, or, as others think, extremely rare.

The facts of M. SABOURAUD'S case are as follow. On August 5th, 1891, there was admitted into the lying-in department of the Hospital of Saint Antoine a woman pregnant and at full term. On her admission it was ascertained that there was present a slight induration of both apices, with some softening on the left side. A fortnight previously the patient had exhibited a transient albuminuria. Delivery took place on the day of admission, and recovery proceeded without incident, the patient leaving hospital on August 16th. The pulmonary lesions

during this time underwent no change. The child was a female, well formed, and normal in weight, and nothing suggested the presence of any hereditary defect. The placenta was not examined. Five days later the infant became affected with conjunctivitis, which speedily yielded to treatment. On the ninth day the child showed signs of meteorism, with a little diarrhœa. On the tenth day general cyanosis was observable, and auscultation revealed fine râles scattered over the whole of both lungs; no convulsions occurred, but there was a continuation of the diarrhœa. On the morning of the eleventh day the child died without any further developments. Owing to the wishes of the friends, it was only found possible to examine the liver and the spleen post mortem. The liver was normal in colour, weight, and dimensions, and free from any trace of perihepatitis, but throughout its entire thickness it was beset with thousands of little granulations from one to two millimetres in diameter and of equal size. The spleen was found small and contracted, without trace of perisplenitis, but with thickened capsule; while it was crowded with innumerable tubercles, some miliary, others from eight to ten millimetres in diameter. The granulations were so numerous that they seemed to occupy the greater part of the surface of the parenchyma of the organ. Microscopic examination by several methods conclusively established the truly tuberculous character of the granulations both in the liver and spleen. The case of the mother made rapid progress, renal complications supervened, and she finally died comatose, with meningeal symptoms. The necropsy showed that the upper half of each lung was crowded with tubercles. No tubercles were found either in the breasts or in the genital organs.

This case is evidently one of great interest, though it is much to be regretted that the placenta was not examined, and that the post-mortem examination was confined to the liver and the spleen. M. SABOURAUD is of opinion that the size of the tubercles, some of them almost a centimetre in diameter, is decisive in favour of the view that the disease could not have been contracted subsequently to birth. He discards the view that these large tubercles could have arisen by confluence of more recent miliary tubercles. The fact that the liver was so markedly affected seems also to him a very strong argument for the view that the child had contracted the disease from the mother while still *in utero*. The absence of any information about the placenta precludes us from inferring whether transmission took place through that organ. It is not mentioned whether the child was suckled by the mother, but in the absence of any statement to the contrary we may probably assume that such was the case.

No sure conclusion can be drawn from a single case of this kind, but the probabilities point to its being a *bonâ fide* instance of the direct transmission of tuberculosis from mother to offspring, and the confirmatory evidence of experimental research strengthens the conclusion. It seems certain that such transmission is a comparatively rare event, inasmuch as tuberculosis is one of the commonest of diseases and tuberculous females are fertile, yet cases at all resembling M. SABOURAUD'S are certainly very uncommon. It is of course always open to us to assume that many infants are born with the tubercle bacillus latent in them, and that considerable time is required for its development. We think, however, that this view is improbable, as it would be difficult to reconcile it with the admitted fact that tuberculosis is relatively uncommon during the first two years of life.

THE later days of November remind us that we shall soon have to find room in our columns for the discussions of the Medical Council. We can only express a respectful hope that the members will have some mercy on us and our readers, and contrive to condense their eloquence and their business. We do not understand that there will be any great change at this meeting in the *personnel* of the Council. One member will not for the present reappear. We refer to Mr. MITCHELL BANKS of Liverpool, who has for some years very ably represented the Victoria University, and who will certainly be much missed. He is to be succeeded by Dr. DANIEL JOHN LEECH, F.R.C.P., of Manchester. Dr. LEECH is a graduate of the London University, and stands so high in the estimation of his fellow-townsmen that he has just been elected Mayor of Manchester. As a consultant and a physician to the infirmary he is well known to the profession. We can wish him nothing better than that he may prove as useful and as independent in the business of the Council as his predecessor. We do not remember that the Council hitherto has been privileged to have amongst its members one holding such an important municipal office, which may well prove to be an advantage. We can only speculate in a general way on the nature of the business which is to engage the attention of the Council. The November meeting is generally occupied primarily with matters affecting the Register, and especially with the cases of practitioners whose conduct has brought them under the disciplinary notice of the Council. Two or three such cases at least may be expected to occupy the Council at its forthcoming session. It has been evident of late years that both the public and the profession have expected more of the Medical Council in this direction than it is naturally disposed to undertake. It has readily adopted any theory that threw on other bodies, whether recognised by Parliament or voluntary, the initiative in measures of a penal or disciplinary character. And it must be admitted that some of the bodies recognised as medical authorities in the Medical Acts are very poor authorities as far as the wholesome discipline of their members is concerned. We shall not specify particular corporations, but it is notorious that there are such, whose diplomates violate all rules of professional usage without remonstrance. These bodies make a show of their by-laws and of their codes of honour. But they never apply them. Whether the blame be theirs or that of the Medical Council, the result is the same, and great discredit accrues to the medical profession. There is an impression that public opinion will not much longer brook this apathy and negligence, and it is to be hoped that both the Medical Council and the medical authorities will rise to their responsibilities. The medical authorities are the less excusable, inasmuch as their by-laws provide for the exercise of a power of censure as distinguished from erasure of names. The freer use of this

power at an early stage of misbehaviour would be a most wholesome medicine to many professional offenders. It may be expected that some of those who have been removed from the Register by the act of the Council will seek restoration to it. The exercise of this clemency is one of the most difficult duties of its members.

Though the November meeting is called chiefly for the consideration of questions affecting the dignity and purity of the profession, it is not possible to evade altogether questions connected with medical education or arising out of the laws affecting medical education in other countries. This is the more likely to be the case on the present occasion, as medical education is in a state of transition, and the extension of the term of it to five years involves pressing questions of the use to which such extension is to be put.

Annotations.

"Ne quid nimis."

THE ILLNESS OF H.R.H. PRINCE GEORGE OF WALES.

WE are able to state authoritatively, in reference to the illness of Prince George of Wales, that his Royal Highness had not been feeling quite well for some days, but appeared to be in his usual health and spirits when he joined the party at Sandringham for the celebration of the birthday of H.R.H. the Prince of Wales. He had headache on the 9th inst., and more decided malaise on the 10th, which, however, he concealed, and joined the shooting party on that day. On Wednesday, the 11th, Dr. Manby was consulted, and his early recognition of the disease and judicious treatment in the initial stage were of important service. In consequence of the recent fire at Sandringham and the saturation of some parts of the house with water, it was considered undesirable for Prince George to remain there, and he was brought to Marlborough House on Friday, the 13th, and placed under the care of Dr. Broadbent and Dr. Laking, who saw him in consultation with Dr. Manby. He bore the journey remarkably well, and there was no elevation of the temperature or increase of frequency in the pulse. The disease has followed an average course. Spots appeared on the 16th. The temperature has fallen somewhat, and has for the last few days been 102·6° or 102·8° in the evening, and 100·8° in the morning. The pulse has always been good. The sense of weakness and the nervous prostration have throughout been disproportionate to the general symptoms, and have been a source of anxiety to the medical attendants, but improvement has taken place in these respects. The disease is believed to have reached the tenth or eleventh day. It will be seen that a period of increasing weakness must still be anticipated, and of course in every case of typhoid fever complications may arise. The promptitude with which the case was treated from an early stage is of good augury for its further favourable progress, for there can be no doubt that many a case is aggravated by want of proper care in the first days of the attack. The illness of the young Prince has naturally awakened the recollection of the very severe attack of the same fever from which his father suffered nineteen years ago, and also of the fatal illness of the Prince Consort thirty years ago. The period of year at which each of these events in the medical history of our Royal Family occurred was the same; and it is well known that typhoid fever is most prevalent at this season. That the proclivity to infectious disease of a particular form may be transmitted by inheritance is clearly illustrated in this record; but of course the recognition of this tendency does not set aside the fact that the disease arises from infected sources.

THE USE AND ABUSE OF HOSPITALS.

A VERY interesting discussion has taken place in the quarterly court of the governors of the Radcliffe Infirmary, Oxford, involving the question of the use and abuse of hospitals, or, in other words, the vital distinction between charity and self-help. We have long maintained the necessity of making clear the distinction between what is given to a hospital with a view to self-benefit, and what is given with a view to the benefit of others. Rich men have been known to give their hospital or dispensary letters to their own servants for ordinary complaints, for which they should have consulted the family medical attendant. Of all the ways of conciliating domestic servants, on whom so much of the peace of homes depends, a little humane interest in their sickness is one of the cheapest and most proper. Of late, well-to-do working men have been showing a sad confusion between a subscription to a charity and a prudential insurance against sickness. The hospitals and dispensaries have properly appealed to the working classes, who almost exclusively benefit by these charities, for contributions. And to a certain, though still inadequate extent, the appeal has been responded to, but with this drawback: that a certain number of working men have adopted the idea that these contributions entitle them to any medical or surgical attendance they or their families require at the hands of the said hospitals and dispensaries. There could not be a greater mistake. These institutions are charities meant for the poor—either the absolutely poor, or those made so by unusual and overwhelming illness or accident. An open door, a comfortable bed, and the highest nursing and medical skill, are a splendid charity to anyone who is so situated, and one to which the well-paid mechanics and artisans of England should contribute handsomely. But such provisions are not meant to meet the ordinary ailments or temporary illnesses of family life. The contributors to a charity are delighted to provide help for a working man with a broken leg or a cataract, or for his children with prolonged strumous affections of bones or glands; but for common ailments, such as may be fairly expected and easily paid for, the working man must make his own manly provision, as he makes provision for heat and food. It appears that at Oxford the University Press men did not like the infirmary letters to state in black and white that they were "poor, and fit to receive the advantages of the charity," and the discussion at Oxford arose over the proposal to omit these words. Several gentlemen were unable to understand the objection to the word charity, and one reverend gentleman was even surprised very much to hear that persons came there who were not objects of charity. He must have been living very much out of the world not to have heard that kind of thing before. The upshot of the whole was that, though the word "charity" is to be removed, an amendment has been practically accepted which will rule that a person desirous of the gratuitous benefit of the institution must satisfy the governor that he is unable, from want of means or other urgent cause, to obtain sufficient aid at his own residence or elsewhere. This is most proper; and if pains are not taken to secure the observance of this principle, subscriptions will fall off, as several speakers pointed out.

A BULLET IN THE BRAIN.

AT the recent meeting of the New York State Association Dr. Cronyn related a case of extreme interest as regards the tolerance of the brain to injury or even to foreign

bodies. The patient was a boy who had received a bullet on the left side of the forehead just above the orbit. He was supposed by his parents to be dead. Dr. Cronyn, however, probed the wound. The probe came in contact with the bullet, a "click" was heard, and the bullet moved backward. There was then twitching of the limbs, respiration, and other signs of returning animation. Three days later the patient became conscious, but he was unaware of what had happened. The right arm and leg were at first paralysed, but gradually improved, and within three months he was able to be up. Before the accident he had been able to read and write and also to count, but after the accident he lost all recollection of even the alphabet. His capacity for calculation, however, had improved very much. In due time there was complete restoration to an ordinary condition, and the spot where the bullet had entered could scarcely be recognised, so that at a medical society at which he was shown doubt was expressed as to his having ever sustained a gunshot wound of the head. Nine years and a half after the first accident, however, the boy was struck on the other side of the head, and died in a few days. At the necropsy the bullet was found sacculated in the posterior portion of the left hemisphere, lower in the brain than the point of entrance.

THE DEATH UNDER CHLOROFORM AT KING'S COLLEGE HOSPITAL.

MR. HOWARD DISTIN, M.R.C.S., one of the house surgeons at King's College Hospital, has favoured us with the following particulars of this case. "The patient, a Covent Garden porter, aged twenty-seven, came to the hospital on Nov. 10th with a sloughy cellulitis over the right shin, caused, as he stated, by a knock against a wooden box a fortnight previously. It was necessary to incise the leg freely to give exit to some pent-up pus. He assented to have an anæsthetic, and it was previously ascertained that his stomach was empty. He was a fairly healthy looking man, but it was afterwards found that he had been living on drink for several days, though his wife admitted him to be but a moderate drinker. All superfluous clothing having been removed from the neck and chest, chloroform was administered by myself by means of a mask composed of one layer of an ordinary towel extending from the bridge of the nose to the point of the chin. On this the chloroform was uniformly dropped, and at first it was held several inches above the patient's face, being gradually lowered as he became more accustomed to the vapour. He apparently took the anæsthetic quite normally, and the struggling stage was not more violent than usual. Just as this was subsiding, I noticed the breathing become slow and gasping. I immediately ceased the administration, and pulled the tongue far forward by means of catch forceps; but this made no difference, the breathing becoming progressively slower and more shallow and gasping. No pulse could now be felt at the wrist, nor could the heart be heard by auscultation. Ammonia was applied to the nostrils, a couple of drachms of sulphuric ether injected hypodermically, and the battery applied with one pole on the nape of the neck and the other alternately over the phrenic nerves and the præcordium. Meanwhile artificial respiration by Silvester's method had been employed from the commencement of the alarming symptoms, the head being kept well below the level of the heart, but there was no sign of returning animation, the patient merely having given a few gasps. After the lapse of an hour all measures were discontinued, the case being given up as hopeless. At the time when embarrassment of breathing was first noticed the pupils were moderately contracted but quite insensible to light. From the commencement of the administration to the patient's last gasp was only a period of five minutes. At the post-mortem examination the stomach was found to be quite empty and the liver large and fatty. The heart was sound as to the valves but extremely thin-walled, soft, and fatty. In this case it seemed to me quite clear that heart failure was the cause of death. How far the patient's struggles gave rise to this syncope may be an open question."

THE SANITARY STATE OF SOUTHEND.

OWING, apparently, to the recurrence of typhoid fever this autumn at Southend, the Local Board of Health have at last called in Mr. Mansergh, C.E., to examine and report upon the state of their sewers. During the past few months the sewers have been cleansed and flushed, at a considerable cost, by means of dissolved sulphate of iron. Southend is unfortunate in its frequent changes of health officer. Mr. Phillips, who only succeeded his predecessor a few months ago, and who had himself previously held and resigned the same post, has again resigned. What is wanted for this locality, which claims to be a health and a pleasure resort, is the appointment for a definite term of years, and at an adequate salary, of a health officer having such qualifications and standing as will tend to restore to the public some of that confidence in the sanitary administration of the place which they have recently had reason to believe was misplaced.

ACCOMMODATION FOR TRAMPS.

THE sad incident of the death of a tramp of pneumonia resulting from exposure and starvation, which was the subject of an inquest held on the 14th inst., again draws our attention to the needs of this portion of our itinerant community. As we have frequently pointed out, there are two kinds of tramps: those who take to the road habitually, and are mostly idle vagabonds who, having once taken to roving, cannot be weaned back into settled habits, and who, as a rule, take sufficient care of themselves; and those who are temporary wanderers, making their way from one point to another in search of work, and who are unable to meet emergencies, and often suffer greatly in consequence. With regard to the first order we have nothing to say, except that they ought to be under strict police supervision, not merely for the ready detection of any crime they may be likely to commit, but because they are often the means of conveying infectious disease from place to place. As to the more respectable wayfarers, those who are wandering in search of honest work, their cause should be pleaded on every possible occasion, so that suitable provision might be made in order that at least decent sleeping accommodation might be provided for them apart from the habitual "casual." Those who know what the "casual" ward of our rural workhouses is like will not wonder that respectable artisans refuse to herd with the common tramp therein, and, like the poor fellow whose death we have alluded to above, postpone entering till the last extremity. Even with the surety of work, it is not every workman who can afford to pay the railway fare to the place of his new engagement, still less when he is wandering about in search of work. To help these *bond-fide* wanderers a more liberal action on the part of the Poor-law guardians is imperatively demanded—a liberality which would not in the end cost much, since by separating the respectable man from the common tramp, the former would be less likely to contract the wandering habits of that perpetual burden on the rates—the habitual casual. For it is a well-ascertained fact that after a man has been brought in contact with the casual ward he very frequently loses self-respect, and soon joins the large army of wandering casuals. What is wanted is to provide for respectable wayfarers a shelter for the

night apart from the regular tramps, and not require them to pay for the night's hospitality by enforced work in the labour yard before leaving. It is hard that an honest man should be delayed on his journey in search of work by having to perform this labour; whilst if he has arrived at his journey's end it handicaps him severely, since it is in the morning hours, while fulfilling his task in the labour yard, that the best opportunity of finding employment occurs. It will naturally be asked, however, how the authorities are to exercise such discrimination; and here, again, we would submit that all tramps, not only for their own benefit, but also for that of the community, should be under supervision of the police, or at least of the Poor-law officials. The habitual tramp would soon be detected, and he should be obliged to report himself on arrival at every fresh place, and treated according to his merits; at all events, if he came from any town or village in which infectious disease was known to be prevalent, he might be isolated. On the other hand, a respectable labouring man would have no difficulty in obtaining a pass from the police or other authority of the place in which he last worked, which would enable him to obtain separate shelter at night from the common herd of casuals, and allow him to depart the next morning without delay and without contamination. The mechanism indicated is simple, and the cost of application certainly would not be excessive, whilst the gain would be great. For when the movement of every tramp was known, many of the vicious might be reclaimed, the respectable preserved from contamination, and the possibility of starvation; whilst the public generally would gain in security against crime and against disease.

THE AERIAL DIFFUSION OF SMALL-POX.

IN the last half-yearly report on the Port of London, Dr. Collingridge mentions a case bearing on the question of the diffusion of small-pox through the air. The *Royal Alice* arrived from Rio de Janeiro on March 25th. She had whilst at Rio been lying at the upper end of the harbour, "about a quarter of a mile" from a small island on which the small-pox hospital was built, and during her stay there six small-pox patients were buried on the island, and the sailors on board watched the burning of the effects of the deceased. Unfortunately, dates are very incomplete, but it is stated that "in the evening" the wind blew from the island towards the vessel, and twelve days after the departure of the vessel one man on board sickened of small-pox, he having acted as night watchman. Within fifteen days other cases followed, and in the end there were seven cases and four deaths. The first man attacked had certainly not left the vessel whilst at Rio; but here, again, no information is given as to others of the crew or as to people coming from shore to the vessel. On the whole facts, however, as procured by Dr. Collingridge, it is reported that the case is almost certainly one in which the small-pox infection was carried for at least a quarter of a mile by the wind. The case thus goes to support Mr. Power's contention as regards the influence of the London small-pox hospitals. And it is noteworthy that, following the discontinuance of small-pox aggregations inside London, the metropolis has enjoyed an extraordinary immunity from that disease. Dr. Collingridge follows up his account of the diffusion of the small-pox contagion by means of aerial currents with the advice to build a ward to hold four or six small-pox patients, "at a safe distance" from the wards containing the other port patients. His experience as to the quarter-of-a-mile diffusion is, we assume, to be considered in connexion with safety. If it is not, we would advise the utmost caution before any erection for small-pox patients is contemplated on the very limited site which the port authority now possess—unless, indeed, some arrangement is made for the destruction of all organic matter contained in the air of the building before it mingles with the surrounding atmosphere. Several experiments are now being made in this direction.

MENTAL WORK AND PHYSICAL EXERCISE.

MR. RITCHIE'S assertion at a recent meeting of the Victoria Park Cricket Association, that the national game still occupies in its season a place of due prominence in the minds of our busiest legislators, is one that neither he nor his hearers have need to be ashamed of. Supported by the existence of an annual match between the Lords and Commons, besides innumerable facts of less pretension which tell the same tale, it speaks well even for the mental quality of those who guide the councils of this country. The sound mind has no reliable connexion with any but the healthy body. Under ordinary conditions, no mere closet thinker, no mere debater, can long remain master of his full power of thought or of expression. Sooner or later he must tend to exhibit in himself what we may describe as a nervous specialism to become overstrained and oversensitive. The political representative, it must be remembered, is a man of affairs. As such he has no less need of plain and practical common sense than of sagacity, acumen, and skill in argument. As such, also, he is at all times open to the access of numberless worries. He is particularly liable to digestive derangements from this cause and from the want of regular bodily exertion. Naturally and rightly, therefore, he seeks and finds in physical exercise and in all that pertains thereto the means of reaching a sounder and a simpler life than that allowed him in his daily round of duty. We may depend upon it that the man who thus mingles in his daily method the conditions needful for mental and for physical development will prove in the end the fitter for all those offices which bring him into daily contact with the ways, the wills, and the needs of his fellow-men in every class. In this he is not peculiar. What is true in his case applies to that of busy men in any calling which does not itself entail a heavy drain upon physical strength. Mental workers of every variety cannot do better than follow the same rule, and, after a well-known suggestion of Abernethy, seek in muscular work a relief which will usually be found from mental irritation and overstrain. A due regard for age and for moderation, of course, must be understood.

MATERNAL IMPRESSIONS.

THE subject of the effect which impressions produced upon the pregnant mother have upon the physical and mental condition of the child while still unborn is one which has a peculiar fascination of its own, and one which we venture to think has not yet been sufficiently investigated. That any influence, such as fear, grief, or sudden fright, which so often causes disturbance of function, if not actual disease, in a pregnant woman should also produce very profound disturbance upon the child *in utero* is on the face of it extremely probable; but that the change produced in the child should at times bear the impress of the active factor in its production requires, we think, further proof. Dr. Lee, in a recent number of the *New York Medical Record*, brings forward two cases of very great interest in this relation. One of them is that of a negro woman, who, while sitting under a hedge at a time when she was five months pregnant, was terrified by a large rattlesnake falling into her lap. The snake struck at her, but only buried its fangs in her apron. The child was born—it is not stated whether at full time or not,—but it was idiotic from the first; it grew up to manhood, and is still living, but in a hopelessly imbecile condition. The woman is the mother of a large family, all of whom are strong and healthy with this one exception. As we have

hinted, it is a matter of some importance, before claiming such a case as support for any theory, to know full particulars as to the time and nature of the birth. The second case is even more sensational. An Irishwoman, when four months pregnant, was frightened by a fight between her husband and another man. She entered the room where they were just as her husband received from his antagonist a slap on the side of the neck and face with the blood-stained hand of his adversary, which left the print of four bloody fingers on his neck and cheek. When the child was born it is said to have had the marks of four bloody fingers on its neck and face; it was living up till five years ago, but has since been lost sight of. Here, again, we should like to have further particulars, especially as to the nature of the marks on the child, which are said to have been like finger-marks. Another case is quoted, but on hearsay alone. The two referred to, however, Dr. Lee has himself seen, and he is strongly of opinion that maternal impressions in pregnancy are of very great importance in regard to the future of the child.

DIPHTHERIA AND SANITATION AT QUAINTON.

THE intervention of Baron Ferdinand Rothschild as a resident in the Aylesbury rural district and as a Bucks County Councillor, with regard to the prevalence of fatal diphtheria at Quainton, seems at last to have aroused the rural authority to action; for, apart from temporary measures dealing with the present emergency, an engineer has been called in to advise as to the drainage of Quainton and other villages. The need for proper sanitary action in this rural district has long been apparent, but it needed the stimulus of fatal disease to secure even the beginning of action to which we advert. Dr. Theodore Thomson, of the Local Government Board, has made a report on the actual diphtheria, and this has now been communicated to the rural authority. But he is continuing his investigations into the general sanitary administration of the district by the Aylesbury guardians and their sanitary officers, and it is this report which is most anxiously awaited by those residents in the district who desire to see some efficient work done with a view to improving the conditions under which many of the people, who are not so fortunate as to reside on the Rothschild estate, have been and are still living.

PARENCHYMATOUS ASPIRATION.

DR. ALBERT ABRAMS of San Francisco describes, in the *Boston Medical and Surgical Journal* of July 9th, 1891, under the above title, a method of obtaining pathological products for diagnostic purposes. The process consists of withdrawing, by means of a hypodermic syringe, certain products from pathological formations in solid tissues, and the examination of what is obtained by the microscope. The syringe has a large barrel with a capacity of ten grammes, the object being to secure as good suction as possible. After numerous experiments on animals, Dr. Abrams punctured the lung in cases of disease of that organ more than fifty times, and the only ill effects observed were syncope in one case, hæmoptysis lasting a day in another, and circumscribed pains limited to the punctured region, of short duration, in two other cases. This aspiration was made in cases of tuberculosis, pneumonia, and syphilis. In undoubted cases of tuberculosis of the lungs and bronchial glands, tubercle bacilli could only be demonstrated in the aspirated products in about 40 per cent. of the cases. Failure to find the bacilli in all cases was largely attributed to errors in technique, which were partially removed after further trials. In some cases, the syringe having been partially filled with a normal saline solution, this was injected into the diseased tissues, the needle remaining *in situ*. After waiting until the fluid had remained long enough to take up some of the pathological products, it was withdrawn. The number of bacilli found in the specimens examined was as a rule small, although in a few instances veritable colonies of the bacilli could be seen. Only two cases of croupous pneumonia were punctured, in both of which pneumococci were found. Tubercle bacilli were observed in a case of enlarged cervical glands. By aspiration the bacillus lepræ was invariably found in leprous nodules, infiltrations, and neighbouring lymphatic glands. Dr. Abrams concludes that parenchymatous aspiration is, when conducted with antiseptic precautions, a harmless procedure. In normal viscera it is rarely attended with danger, owing to the elasticity of their walls. Hæmorrhage may possibly follow aspiration in disease of the viscera, owing to diminished tissue elasticity and pathological changes in the bloodvessels; but the necessity for a correct diagnosis justifies, in properly selected cases, the slight risks that are incurred. It is of value in the diagnosis of pulmonary tuberculosis, with lung consolidation, in which no bacilli can be found in the sputa; or when consolidation is present, but no sputum, it may furnish the earliest evidence of the disease. In tuberculosis of the lymph glands, bones, joints, skin, testicles, and other structures, it is of undoubted importance. In malaria, typhoid fever, and other infectious diseases, puncture of the spleen may prove of great value in diagnosis. Leprous lesions of the external parts or of the viscera may be correctly recognised by the aid of this operation.

THE SALVATIONISTS AND CLEANLINESS.

A FORTNIGHT ago, acting upon apparently reliable information, we directed attention to the alleged unwholesomeness of a Salvation Army shelter, and to its apparent influence in promoting a local increase in the pauper population. We have now the satisfaction of learning, from a presumably well-informed correspondent, that a recent official inspection of the shelter has, at all events, effectually disposed of any question as to its present sanitary condition. Within, it was found to be remarkably clean, well heated, and well ventilated. Several baths, with a sufficient supply of water, towels, and soap, were at the service of the occupants, and the sanitary conditions generally were the reverse of what they were at first supposed to be. "Adversity," says Bacon, "doth best discover virtue"; and certainly the Salvationists of Clerkenwell have little reason to regret the light hardship of public suspicion which finally appears to have discovered among them the healthy virtue of cleanliness.

NAPHTHALIN IN WHOOPING-COUGH.

MANY remedies have been vaunted for the cure of whooping-cough, but with little satisfactory results in the great majority of cases. A proposal to add naphthalin to the long list of so-called cures has arisen in the following manner. Dr. Chavernac of Aix, during a recent epidemic, seems to have allowed his son, who was eighteen years of age, while suffering from the affection to continue to attend school. One day the lecturer on science had heated some substance which gave off very strong fumes, which, though disliked by many of the boys, had the effect on him of immediately stopping a violent attack of coughing. As soon as the windows were opened and the fumes passed away the cough recommenced as violently as ever. His father, having discovered that the fuming substance was merely naphthalin, had about an ounce of it burnt in the lad's bedroom, with the result that he breathed a great deal more easily, and only had one slight attack during the night. The next day, being at school, he had several attacks, but they were somewhat less severe than they had previously been. The next

night the drug was again burnt in the bedroom, and this second dose entirely cured both the cough and the expectoration, which latter had been rather profuse. The father was then attacked, and in three days cured himself by the same treatment. He subsequently tried it with several of his patients with marked success, and with the concurrence of a friend, who was medical officer to a convent school where the epidemic was raging, he tried it on thirty affected children. After the naphthalin had been burnt two successive nights in their dormitory, they were all cured. Two of the nuns, however, found the fumes very irritating, and on these ladies being examined it was discovered that they were both suffering—quite unknown to themselves—from incipient phthisis. From this and some further observations Dr. Chavernac has come to the conclusion that naphthalin is contra-indicated in phthisical persons, and that it may sometimes serve to reveal the existence of totally unsuspected tubercle. It may be remarked that the so-called albocarbon used frequently for enhancing the lighting power of gas is somewhat crude naphthalin. The method employed by Dr. Chavernac is to place about three-quarters of an ounce in a metal dish surrounded by hot coals. It soon melts, and before long fills the room with white fumes, which he considers by no means unpleasant. The old custom of taking children to gasworks for whooping-cough has generally been thought to depend on the curative effect of gas tar; but from the above it would appear that the naphthalin which crystallises out in the retorts and pipes is perhaps really to be more credited with efficacy than the tar.

THE REGULATION OF SLIPPERY STREETS.

EVERYONE acquainted with the construction of modern city roadways will appreciate the utility of a recent order issued by the Commissioner of Metropolitan Police. According to this regulation police constables will be required to notice the condition of thoroughfares within their sphere of duty, and to report to the local authority any that are dangerous to traffic from want of sand or gravel. The precaution is one of such evident value that little need be said in order to recommend it. Experience in use has taught us that asphalte, wood, and a variety of composite substances will in some respects compare favourably with the time-honoured paving-stone as means of road-making. For smoothness, quiet, even durability, there is much to be said in their favour. Their one great and common drawback is their treacherous uncertainty during and after wet weather, a quality which is much enhanced of course by the addition of tenacious mire well trodden and rolled by countless feet and by constant wheel traffic. The order referred to comes as a simple and effectual remedy for this ever-present danger. To the foot-passenger no less than to the swiftly driven cab-horse or the cycle-rider the state of the road is everything as regards security of life and limb. It is therefore the more satisfactory to note that local authorities on their part—if, at all events, we may take for example the Marylebone vestry—not only do not resent, but seem desirous of utilising, the aid of this freely-offered service of inspection.

MIDDLE-EAR DISEASE IN DIPHTHERIA.

IN an article on the "Histological and Bacterial Investigation of Middle-ear Disease in the various Types of Diphtheria," published in the *Archives of Otology*, vol. xx., No. 1, 1891, Professor Moos gives the results of the examinations of the middle ear in six cases of primary, septic, and scarlatinal diphtheria. He described the macroscopic and microscopic changes that take place in the tympanic mucosa, in the hard and soft parts of the labyrinth, and in the intrinsic muscles of the ear; in the latter he finds peculiar hyaline and granular degeneration, which he thinks is caused by the action of bacteria. Similar changes are met with in the nerves of the middle ear. In the mucous membrane of the middle ear there is "partial modification of the epithelium, and an extensive infiltration of the mucosa, with polymorphous migratory cells and retrograde metamorphosis, and, finally, a necrosis of the bloodvessels and bone. There is seldom any suppuration, as the disease is essentially mycotic in its nature." It is interesting to note that Professor Moos considers that the scarlatinal changes are essentially different from those met with in diphtheria—in so far, at any rate, as regards the etiological causes; and he agrees with Kolisko that the Klebs-Loeffler bacillus is not met with in cases of scarlatinal diphtheria, but that genuine pharyngeal diphtheria and laryngeal croup are the same, from the fact that the Klebs-Loeffler bacillus was found in most of the cases examined. Dr. Moos appears to think, however, that, as regards the middle ear, the bacteria which set up the inflammation are different from those which grow in the throat, as in all cases the organism found was more like the streptococcus of erysipelas or that of scarlatina; this accords with Roux and Yersin's observations.

PUBLIC HEALTH GOVERNMENT IN LONDON.

NEWS of the typhoid fever epidemic in the south-east of London has been intermittently before the public for some weeks past, and now we learn that after the occurrence of 202 cases in Deptford alone during four weeks, samples of water from the mains of the Kent Company and from those of the Southwark and Vauxhall Company have been submitted to analysis for the Greenwich District Board of Works. Those who know what value to set on a chemical analysis of water collected weeks after the cause producing the disease had set in, will not feel much comforted by this display of activity, and this even though the outbreak seems now to have in the main exhausted itself. But what should interest Londoners is the extraordinary apathy about all metropolitan matters affecting health. Had some paltry village in the provinces been thus affected, the Local Government Board would have been set in motion and inspection of the district would have been made. The fact of the epidemic having occurred in London seems to make it nobody's business to interfere. Londoners have a right to ask which is the supervising body for metropolitan health purposes. Is it the Local Government Board or is it the County Council? And if it is either one or the other, why does not some active intervention ensue on such occasions?

EFFECTS OF VENTILATION ON MICRO-ORGANISMS.

RECENT investigations have thrown considerable light upon the possible infection from dust and air. The experiments of Dr. Cornet are too well known to need repetition here, but some experiments made by Dr. Richard Stern[1] are worthy of notice. This observer has made experiments on the effects of ventilation on micro-organisms. He conducted them in a room in which he could have perfectly quiet air or a more or less complete ventilation. The openings in the walls of the room were so arranged that he could admit the air from without either at the upper part near the ceiling and convey it off near the floor on the opposite side of the room (winter ventilation), or the air could be admitted near the floor and conducted out of the opposite side of the room near the ceiling (summer ventilation). The rapidity of the ventilation was also under complete control. The air of the room was artificially loaded with micro-organisms. Pure cultures were mixed with the dust collected from school-rooms and factories. This refuse was then dried, pulverised, and distributed about the room as much as possible. The

[1] Boston Medical and Surgical Journal, Sept. 24th, 1891.

air was then examined for the number of micro-organisms by Petri's method at various intervals of time. The conclusions arrived at were: 1. That the micro-organisms rapidly sink to the floor in a quiet air. The finer the dust upon which the micro-organisms rest the slower is the gravitation. 2. The usual ventilation, effecting a renewal of air from one to three times an hour, has no result upon the removal of micro-organisms with summer ventilation, and only to a very limited extent with winter ventilation. 3. Ventilation causing a more rapid renewal of air (six or seven times to the hour) effects the removal of micro-organisms but slightly, unless there is a considerable draught. 4. A rapid and complete removal of the micro-organisms from the air is only attainable with a strong draught. 5. Micro-organisms are not blown off from the floor, walls, furniture, clothing, &c., even with the stronger draughts. 6. The evolution of steam in a room is not capable of rapidly and completely precipitating the micro-organisms, although it hastens this process to an appreciable extent.

REMARKABLE PROPERTIES OF CARBON MONOXIDE.

CARBON MONOXIDE promises to play in the future a very important part in the arts and manufactures, judging from the extraordinary and extremely interesting results that have already been obtained. Its action upon two metals is known for certain, and it remains to be seen how other metals are affected. Messrs. Mond, Langer, and Quincke showed last year that by passing carbon monoxide over hot, finely divided nickel, a colourless liquid was obtained which, when vaporised, deposited the nickel in a metallic state, so that articles could be easily plated by simply exposing them to the vapour.[1] Since then these chemists have found that the nickel compound $Ni(CO)_4$ is also readily formed in the cold, provided the metallic nickel has been previously treated in a current of hydrogen. At the last ordinary meeting of the Chemical Society on Nov. 5th, Sir H. Roscoe, M.P., in conjunction with Mr. Scudder, read a paper on a new and highly interesting mode of formation of iron carbonyl, $Fe(CO)_4$. During the course of their experiments upon the application of water-gas to the purposes of illumination, it was noticed that the magnesia combs placed over the flame of the burning water-gas rapidly became coated with oxide of iron, which materially lessened the illuminating power. Water-gas, it will be remembered, is obtained by passing steam over red-hot coke, and it contains about 40 per cent. CO and about an equal quantity of hydrogen. Steatite burners were likewise found to become stained with oxide of iron. This led to the supposition that the iron had existed in the water-gas in a volatile form and was deposited as the result of the decomposition of the volatile compound at the high temperature of the flame. Water-gas which had been compressed to eight atmospheres in iron cylinders was found to burn with an intensely yellow flame, whereas carbon-monoxide burns with a blue non-luminous flame, and the illuminating power when the magnesia comb was placed over the flame was considerably reduced owing to the deposition upon the comb of large quantities of oxide of iron. This was successfully demonstrated before the Fellows of the Society present. A porcelain plate being placed upon the flame, a black stain was immediately produced on it, due to the deposition of particles of metallic iron and oxide. The glass tube through which the gas was passing on its way to the burner being heated, a black mirror of metallic iron was readily formed thereon. After allowing a similar cylinder containing compressed water-gas to stand for five weeks, the flame was found to be smoky from the large amount of iron liberated during the combustion. The smokiness, as well as the whole luminosity, disappeared upon heating the tube, the gas burning with its ordinary blue flame; a "mirror" was at once deposited, and a large amount of iron retained by a cotton-wool plug. It is evident from these experiments that iron carbonyl is produced in the cold by the action of the carbon-monoxide contained in the water-gas upon the iron of the cylinder. From the fact that the same deposit of metallic iron or oxide is found upon steatite burners from which ordinary coal-gas is burnt the existence of iron carbonyl in our common illuminating gas is indicated. Dr. Thorne said that this would very probably explain the fact that coal-gas which has been compressed in iron cylinders and allowed to stand some time is rendered unfit for use in the limelight, owing to the deep stain of iron formed upon the lime cylinders. No doubt this singular action of carbon-monoxide is being further investigated, and probably we have yet to learn results which will prove equally remarkable. If it is found that carbon-monoxide combines in the same way with gold and other metals, it would create no small stir in the mining world, as a new method for the more profitable extraction of gold from its ores at once suggests itself.

[1] Vide THE LANCET, June 20, 1891, p. 1401.

THE SEWAGE OF LEIGHTON-BUZZARD.

THE rural sanitary authority for Leighton-Buzzard have been fencing with the question of a system of sewerage for some years past, and their determination to shelve the matter as long as they can was displayed in an amusing way at their last meeting. Having for a long time, before the formation of a local board, been defaulters as to the sewerage of the town, they were unwise enough to call upon the London and North-Western Railway Company not to discharge the sewage from their station waiting-rooms into a stream near by. The Company very naturally retorted that it was a statutory duty imposed on the sanitary authority to provide their district with sewers, and that when this was done the Company would connect with them. How to get out of this difficulty puzzled the authority. One member suggested that the Company should be compelled to drain into an existing "sewer." But, in answer to this, he was told that this "sewer" was not a sewer, but a surface water drain, to connect with which would be illegal, and also that it had its outfall into the canal. To transfer the sewage from the stream to the canal did not seem a sufficiently happy solution of the difficulty, and the clerk warned the authority that if they pressed the Company appeal would be made to the Local Government Board, and the construction of a system of sewers would be ordered. Eventually the authority decided not to press the matter, but simply to call upon the Company to abate the nuisance, whatever that may mean. It is to be hoped that the Company will answer, "How?"

THE DIETETIC VALUE OF PEPTONES.

IN the current number of the *Journal de Pharmacie* of Antwerp, M. Denaeyer describes a very simple method for the determination of the dietetic value of peptones. The complete analysis is tedious and difficult, and it is even now by no means perfect. M. Denaeyer himself has done much towards its improvement, and we are not the less grateful to him for giving us a method by which the comparative merits of different commercial samples can be obtained with simplicity and some approximation to accuracy. The method depends on the fact that the more valuable constituents of a peptonic fluid are precipitated by strong alcohol. To this class belong albumin, albumose, peptone, and one variety of gelatin. The alcoholic extract retains in solution definite compounds such as creatine, tyrosine, and urea. The mode of working is as follows: 10 cc. of a 20 per cent.

solution of peptone are treated with 100 cc. of strong alcohol; after standing for twenty-four hours the extract is removed by decantation, and the precipitate and extract are separately evaporated to dryness, the latter at 105° C., and each is carried to constant weight. The dietetic value of the peptone depends on the percentage of the precipitate which contains all the true food constituents. M. Denaeyer states that the extract should not amount to more than 30 per cent. of the whole dry matter, any larger proportion being due to products of metamorphosis—such as leucine, tyrosine, aspartic acid, glycocol, amido-butyric acid, and the like. Such an assay, although of practical utility, cannot supersede complete analysis. It is evident, for example, that gelatin would be reckoned by the above process along with the valuable peptone constituents, since strong alcohol precipitates this body.

INFLUENZA.

THE occurrence of outbreaks of influenza continues to be reported from several parts. In Russia, the metropolis—which suffered so severely two years ago—is again the seat of an epidemic. In the Dordogne—at Périgueux and other towns—the disease is very rife; schools are closed, and all classes are suffering from it. Coming nearer home, we have to record the appearance of epidemics at Glasgow, where it is said that children are the chief sufferers; and at Dumfries, where the School Board has had to close two schools in consequence of the illness among the staff. Further south, reports of its prevalence in Bedfordshire are to hand; whilst in West Cornwall it continues to spread, especially at Redruth and Helston, and it has also appeared at Truro. Fortunately the cases, although very numerous in this district, appear to be of a milder character than those which occurred in the spring.

"ROARING" IN HORSES.

SOME interesting correspondence has recently taken place in the daily press on the subject of "roaring" in horses, and more especially with reference to the return from South America of the Duke of Westminster's famous horse "Ormonde"—undoubtedly one of the grandest, if not the grandest, horse ever produced in this or any other country. It may be remembered that two or three years ago this horse developed the infirmity known by the above term, and this cut short his career on the turf, his noble owner disposing of him for £12,000 to Don Juan de Bocan of Buenos Ayres, where "Ormonde" was to be put to the stud. A syndicate in London now proposes to purchase the horse for £35,000, bring him back to this country, and sell his reproductive services at a very high figure. No doubt the speculation would be a most profitable one if subscribers would only come forward; but it is to be sincerely hoped, in the interests of our fine breed of horses, that they will not, for if ever there was a hereditary failing this certainly is. We have only to peruse Dr. Fleming's work on Roaring, in which the history of the progeny of certain notable horses is traced, to satisfy ourselves on this point. Among the highest veterinary authorities and those who have had great experience among thoroughbred and other horses there is a perfect unanimity of opinion as to the infirmity being transmitted from sire or dam to their offspring from generation to generation. There is evidence that breeding from unsound parents has led to wide prevalence of this respiratory defect, and doubtless the action of the Duke of Westminster in sending the horse out of the country tended to prevent further spread of the disease among our horses. "Ormonde's" brother and sister—"Ossory" and "Fleur-de-Lys"—have also become roarers, and have likewise been sent across the seas. Their dam, "Lily Agnes," developed the defect late in her racing career, but there is a history of roaring in her progenitors. Breeders are now fully alive to the necessity for keeping such animals away from the stud, but with every possible care it will take a long time to eradicate the malady. There is no doubt as to its nature, which is a laryngeal hemiplegia—as a rule, affecting chiefly, if not altogether, the left side of the organ, the dilator muscle on that side undergoing degeneration and absorption from impaired nervous influence. Its occurrence on the left side in nearly every case can be attributed to the anatomical peculiarity in origin of the left recurrent nerve, though how this becomes impaired has not yet been fully elucidated. But of the hereditary tendency to this impairment there cannot remain a shadow of doubt.

MYOMA IN THE PREGNANT UTERUS.

DR. Z. V. MIKHELIANTS publishes a paper in the *Vrach*, illustrated by the history of several cases, on the treatment of myoma in the pregnant uterus, and arrives at the following conclusions:—Myoma is of frequent occurrence in pregnancy, and exerts a considerable influence on the latter as well as on labour and the post-partum period. The results of artificial abortion are not encouraging, because the original affection is not removed and various untoward incidents may occur. The mortality of the mothers is greater after expectant treatment than in the case of operative interference. The mortality of the children is about the same under all methods of treatment. Single and pedunculated myomata, when growing fast and exerting pressure on organs in the vicinity, require removal with preservation of the uterus. In cases of myoma within the walls of the uterus in which, in consequence of its growth, symptoms of pressure are observed, or when the tumour is wedged in the pelvis so that obstruction is caused, Porro's operation is indicated. Myoma of the cervix, which may impede delivery, must be removed per vaginam during pregnancy. The expectant method employed at first with the view of removing a viable child by Cæsarean section is stated to show a greater percentage of mortality in the mother than Porro's operation during the first half of pregnancy.

CHOLERA IN SYRIA.

THE cholera epidemic in Syria is now confined to Damascus and to Antioch. The accounts from Damascus are improving. From Oct. 23rd to the 30th the fresh attacks per diem numbered from 44 to 74, with from 25 to 47 deaths. This was apparently the height of the epidemic, and since then the prevalence has been diminishing. In the neighbourhood of Antioch there is said to have been a revival of the disease, towards the close of October at least one well-substantiated death having been caused by cholera. As already stated, Aleppo is now free from the disease, and no Syrian ports are affected.

DISEASES OF THE EAR IN DIABETES.

PROFESSOR KUHN of Strasburg, communicates to the *Archiv für Ohrenheilkunde* a lengthy report of two cases of disease of the ear which he had observed in diabetic patients. The first case was that of a man aged fifty-four, who, after having suffered from diabetes for a year, had contracted acute otitis of the middle ear, with profuse otorrhœa, and who had died after a severe bleeding from the affected ear. The post-mortem examination revealed a widely extended destruction of the petrous bone, the ultimate cause of death being acute puriform meningitis. The second case was that of a man, fifty years old, in whom an otorrhœa on the right side had resisted all rational treatment for two months. Dr. Kuhn, in conversing with the patient, was struck by the odour of acetone from his mouth and by his bad teeth, and suspected the presence of diabetes. This suspicion having been confirmed by the

examination of his urine, the patient was put on anti-diabetic treatment; but four weeks later a periosteal abscess of the mastoid process developed, followed by one of the left ear, where a dry perforation had existed for the last twenty years. Both abscesses were opened and sublimate dressing applied. The author, in discussing the two cases, arrives at the conclusion that diabetic patients, who contract otitis media, require heroic treatment, as extensive destruction of the neighbouring parts may otherwise occur and lead to fatal results. He also quotes in favour of early operative treatment from Dr. Koenig, who says that in diabetic necrosis, when general anti-diabetic and local antiseptic treatment prove unavailing, and further expectant treatment threatens danger to the patient, a radical operation may save life.

EPIDEMIC SKIN DISEASE AT THE PADDINGTON AND MARYLEBONE INFIRMARIES.

AN important discussion on this subject will be opened by Dr. Savill at the Medical Society on Monday, the 30th inst., when patients and specimens will be exhibited at eight o'clock. The subject has already been referred to in our correspondence columns. Eczema and many other skin lesions have long been suspected to be in some sense parasitic in origin, but the connexion has not hitherto received any such remarkable illustration as is to be found in this epidemic. The occasion promises to be an interesting one, not only to those who make skin diseases their special study, but to all branches of the profession.

THE ANTHRAX BACILLUS.

IN connexion with Dr. Oliver's case of "Acute Perforating or Ulcerative Aortitis in which the Bacilli of Anthrax were found," reported in our issue of Nov. 7th, it was unfortunate that the diagnosis rested entirely on a mere microscopic examination of the tissues and of the contained bacteria. As pointed out by a correspondent, there are several organisms which, in the tissues, bear a very close resemblance to anthrax bacilli, and in no case is it desirable to place much reliance on mere morphological characters. It is now a well-known fact that micro-organisms, differing in most important points, may have close morphological resemblances, so that, unless cultivation and inoculation experiments are made, even where the microscopic diagnosis appears to be definite enough, it is an exceedingly dangerous foundation on which to base any very definite statements. Several observers have found in certain forms of pyæmia, and even of septicæmia, organisms very similar to the anthrax bacilli and those described by Dr. Oliver, and until cultures have been made and their growths compared with those of anthrax, and the effects of inoculations on animals are also compared, it is scarcely safe to take up the position that these organisms are the bacilli of anthrax.

SENSORY CENTRES AND THE CORTEX.

DR. KNAPP publishes, in the *Boston Medical and Surgical Journal*, a case of considerable interest in this relation. It is that of a man who was wounded at the battle of Chantilly in 1862. He received a bullet-wound in the head, and had a discharge from this wound for several months subsequently. When he came under observation he complained of headache, occasional convulsive attacks, and loss of memory. His appearance resembled that of a general paralytic, and his utterance was slow and hesitating. There was a scar running longitudinally over the left parietal eminence about two inches from the median line, crossing the position of the fissure of Rolando. Movements were carried out a little clumsily, and sensibility to touch, weight, position, &c., is said to have been quite good. He was trephined, and a small part of the cortex, which looked yellow, removed. There was also slight injury to an adjacent part of the cortex, but the injuries were apparently confined to the middle third of the left ascending parietal convolution. The wound healed by first intention, and there was found to be slightly impaired purposive movement and loss of sensibility to touch, pressure, motion, and position. Sensibility to pain and temperature remained unaffected. The sensory loss became less, but remained distinct and affected the whole arm. For a time there was improvement in the mental condition of the patient, but it afterwards became worse. The case is an interesting one doubtless, but the condition of mental hebetude, in which the patient was, renders it somewhat inconclusive. It would also be interesting to know whether the leg and trunk were affected at all. Dr. Knapp anticipates the objection that there might be a second lesion by pointing to the normal sensibility before operation, and the absence of any inflammation around the wound after operation; and these of course would have very great weight, did we know for certain the diagnosis of the case, but it must be granted that the brain on which the operation was carried out was not a normal, healthy cerebrum.

THE LATE DR. WOOLDRIDGE.

A MEETING was held at Guy's Hospital on Monday last to raise a memorial to the late Leonard Charles Wooldridge, M.D., D.Sc. Dr. Pye-Smith, who presided, described the short but brilliant career of their late assistant physician, and Mr. Golding-Bird, who had been associated with Dr. Wooldridge in the physiological laboratories of the hospital, testified to his genius for experimental research. It was decided to limit the subscription list to Guy's men, past and present, and the following committee was formed to determine on the most suitable way of perpetuating his memory:—Drs. Pye Smith, Hale-White, Washbourne, and Starling; Messrs. Golding-Bird, Tubby, Sharp, and Mackeson (Hon. Sec.).

TREATMENT OF DIPHTHERIA BY IRRIGATION OF SALICYLIC ACID.

IN the *Bulletin Général de Thérapeutique* for Sept. 15th, 1891, Dr. Parisot of Voyes publishes a paper in which he highly recommends irrigation of salicylic acid as a treatment for diphtheria. The former mortality of his case was large (10 out of every 14); in a recent epidemic, when the new treatment was adopted, he had only five fatal cases out of every twenty-four, certainly a very satisfactory proportion for such a fatal disease. The formula which Dr. Parisot employs is as follows: Salicylic acid, one gramme; water, 980 grammes; alcohol (90 per cent.), 20 grammes. The salicylic acid is dissolved in the alcohol, and the water added. The apparatus for irrigation is a fountain syringe, with the reservoir made of tin. This is hung against the wall over the patient. The rubber tubing, which is connected to a projecting nozzle at the lower part of the reservoir, ends in a small glass tube drawn out to a point. A spring catch on the tube controls the current of liquid. When the apparatus is filled with the solution the head of the child is held by an assistant, the tongue depressed, and the jet of fluid directed against the pharynx with sufficient force to detach and remove the false membranes. Several applications may be necessary to effect this, and if the membranes are not loose a little time must be allowed to elapse until this is the case. As regards the position of the head, Dr. Parisot recommends that this should be forward and a little downward. When the child is feeble, it should be supported upon the arm of the nurse with its face turned towards the floor, so as to prevent the liquid flowing back and being swallowed in large quantities. The amount of

fluid used on each occasion must be learnt by experience. As a rule, three or four ounces each time is sufficient, and this should be practised as frequently as possible. Dr. Parisot considers that salicylic acid has a destructive action upon diphtheritic formation. He showed by experiment that in distilled water the membrane simply became sodden and gradually disintegrated, this taking place very slowly, whilst in solutions of salicylic acid the membrane was rapidly dissolved; at the end of a few minutes only the meshes of network in which the cells had been supported were visible. The stronger the solution of salicylic acid the quicker and more complete was the destruction of the tissue. Dr. Parisot has further noted that when the diphtheritic membrane has been once removed by means of salicylic acid its reproduction was considerably slower and more imperfect, and therefore concludes that the acid has a favourable action upon the mucous membrane, which is rendered unsuitable for the growth of the pathogenic organism and the reproduction of the diphtheritic patches.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Dr. Schönfeld has been appointed President of the Commission of Examiners for the State Examination, in succession to Dr. Kersandt.

Clausenburg.—Dr. Bikkfalvi has been appointed Extraordinary Professor of Physiology.

Florence.—Professor Inverardi of Padua has been appointed to the chair of Midwifery and Gynæcology.

Groningen.—Dr. Kovij has been appointed Professor of Medical Diagnosis.

Jena.—Dr. Ludwig Wolff of Strasburg has been offered, and has accepted, the Professorship of Chemistry.

Kazan.—Extraordinary Professor Kotovshchikoff has been promoted to an Ordinary Professorship.

Philadelphia (Jeafferson College).—Dr. James C. Wilson succeeds Dr. da Costa in the chair of Medicine.

Prague (Bohemian University).—A new Professorship of Otology has been created, which has been given to Dr. Kaufmann.

Tours.—Dr. Fleury, of the Algiers Medical School, has been appointed to the chair of Materia Medica and Pharmacy.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Professor Reyer of Graz, who was formerly surgeon to the Viceroy of Egypt, and whose name is known principally by his surgical treatment of elephantiasis.—Dr. Justice Schmidt of Cassel, in his seventy-fifth year.

THE report on the condition of the metropolitan water-supply for the month of September by Messrs Crookes, Odling, and Tidy shows that the satisfactory condition of the water, recorded now for several consecutive months, continued to be maintained; although, indeed, the individual results obtained exhibited a somewhat greater degree of variation than has been noticeable for some time previously. Thus, in the case of the Thames-derived supply, the mean proportion of organic carbon was found to be ·129 part in 100,000 parts of the water, with a maximum of ·150 part in any single sample examined; while the mean amount of oxygen absorbed was found to be ·076 grain per gallon of water, with a maximum of ·145 grain in any single sample examined.

MR. W. H. BATTLE, F.R.C.S., formerly Surgical Registrar and Resident Assistant Surgeon, has been elected Assistant Surgeon to St. Thomas's Hospital.

THE death is announced of Henry Nottidge Moseley, LL.D., F.R.S., Linacre Professor of Human and Comparative Anatomy in the University of Oxford, who expired at Clevedon, Somerset, aged forty-seven. He was known chiefly for his work in connexion with the *Challenger* expedition, but he wrote many works on natural history, and contributed numerous papers to the Transactions of the Royal Society and other learned bodies.

AT the meeting of the Hunterian Society on Wednesday next a special discussion will be held on the subject of Albuminuria in relation to Life Assurance. A paper will be read by Dr. Hingston Fox, and Dr. Pavy, Sir Wm. Roberts, Dr. Pye-Smith, Dr. Maguire, Mr. Clement Lucas, and others are expected to take part in the debate.

SIR WILLIAM SAVORY, Bart., has resigned the post of senior surgeon to St. Bartholomew's Hospital, under the rule of the limit of age by which each member of the medical staff who reaches the age of sixty-five ceases to be an officer of the institution.

A SECOND list of subscriptions to the Matthews Duncan Memorial appears this week in our advertising columns. It is gratifying to find that the proposition to perpetuate the memory of the distinguished obstetrician is meeting with a liberal response.

DR. S. HERBERT HABERSHON, who has been for some years one of the assistant physicians at the Royal Hospital for Diseases of the Chest, City-road, has been elected a physician of the hospital.

DR. ROBERT BARNES has, on the occasion of the 400th sitting of the Leipsic Obstetrical Society, been elected an Honorary Member.

SIR EDWIN SAUNDERS, F.R.C.S., has been elected Foreign Corresponding Member of the Royal Society of Public Medicine in Belgium.

Pharmacology and Therapeutics.

RESORCIN IN LARYNGEAL PHTHISIS.

DR. TYMOWSKY publishes in the *Monatschrift für Ohrenheilkunde* a contribution to the treatment of laryngeal phthisis. He considers that when the hygienic surroundings of the patients are favourable, rest and liquid nourishment are sufficient to allow simple erosions and even superficial ulcers to heal. When the latter are of greater depth, and the surrounding tissue is infiltrated, cocaine and alkaline inhalations must be administered; and when the inflammation has been reached by this treatment, lactic acid in a solution of the strength of from 50 to 80 per cent., or an 80 per cent. solution of resorcin, may be applied successfully. Iodoform, to be useful, must be applied twice a day, and only when the ulcers are covered with abundant granulations. Dr. Tymowsky calls resorcin the most convenient of all these remedies, because it gives no pain, and need only be applied once a day. The solution must, however, be of the strength of 100 per cent. for unhealthy-looking ulcers which are undoubtedly of tuberculous character, when its effect may be depended on. At the same time inhalations of from 2 to 5 per cent. solution of resorcin may be substituted for those of cocaine. Resorcin consequently is antipyretic, antiseptic, and hæmostatic, and may be given internally in quantities of three or four grammes a day. It is also used externally in various forms. Dr. Unna has administered it for a long time past in chronic recurrent ulcerations of the skin.

HYDRATE OF AMYLENE IN EPILEPSY.

In the last number of the *Journal of Mental Science* Dr. Dunn gives the result of the treatment of fourteen

cases of epilepsy by means of this drug. All the patients were chronic epileptics, with a greater or less degree of secondary dementia, and, with the exception of two, had been previously treated with large doses of bromide of potassium. On comparing three months of bromide treatment with three months of hydrate of amylene treatment in the same patients, it was found that in two cases—and these the most severe—the number of fits was increased by one-fourth, in one case the increase was slight, in four the number of fits was diminished, and in three the numbers were practically the same. Two cases died in the *status epilepticus*, one in the first week of the treatment, and one in the twelfth. As to the two cases not previously treated, in one the treatment by amylene was accompanied by considerable diminution in the number of fits; while in the other no difference was observed. During the first four weeks of treatment there was observed to be a considerable improvement in the psychical condition, but this was probably due to the cessation of the administration of bromide. The fits were also less frequent during the first month. After the lapse of this interval, however, there was a marked tendency for the *status epilepticus* to become established, and prolonged bouts of fits were common. Three patients during the sixth week of the treatment lapsed into a comatose condition, with subnormal temperatures and slow, heavy respiration, a condition which lasted for several days. Dr. Dunn is of opinion that, although at first beneficial effects seem to follow the administration of this drug in epilepsy, it really appears to have no advantage over the bromides, and it is much more expensive.

SULPHAMINOL, OR THIO-OXYPHENYLDIAMIN.

Dr. Wojtaszek communicates to the *Przeglad Lekarski* some observations he has made on sulphaminol, which has been brought out by an eminent German firm as a new disinfectant, which is said to split up with the body into carbolic acid and some compounds of sulphur. So far from this being the case, however, Dr. Wojtaszek found that large doses might be given to animals, both hypodermically and by the mouth, without producing any effect whatever; also that when applied as a dressing to cancers, soft chancres, and other open sores, it exercised no disinfectant action. He has therefore come to the conclusion that for therapeutic purposes it is inert.

LUNACY AT THE CAPE.

THE Report of the Inspector of Asylums of the Cape Colony for the year 1890 shows that the number of certified patients on the registers of the asylums and hospitals on Dec. 31st last was 595, being an increase of twenty-three patients during the year. There were 310 European and 285 coloured patients. The excess of males over females was considerable—namely, 335 men to 240 women. Among the Europeans the excess was as 182 to 128, while among the coloured patients the excess of males was somewhat more—namely, 173 to 112.

There appear to be five institutions in the colony in which certified lunatics are detained. These asylums are inspected quarterly by visitors specially appointed in each district, and the inspector visits each institution at least twice a year. The Inspector not unnaturally deplores the fact that, owing to the lamentable want of asylum accommodation, the gaols and gaol hospitals of the colony continue to be used to a very large extent as subsidiary asylums. On Jan. 1st, 1890, thirty-five lunatics were in the gaols, and during the year eighty-two fresh cases were admitted into them, making 117 persons of unsound mind who were "treated" for a longer or shorter time in the prisons of the country; and "this, too," the Inspector justly goes on to say, "during the earlier, more hopeful, and most critical period of their malady."

In addition to the inadequacy of asylum accommodation, however, it is manifest that, by legislative enactment, the whole legal process of certification in lunacy cases is subordinated to the existence of acts or manifestations of a criminal description which lead to an excessive demand for preliminary gaol "treatment." For we are told that under the existing Act a lunatic must commit some crime or offence, or manifest an intention to do so, and be therewith charged before a magistrate, before he comes under the provisions of the law. The Inspector holds that the publicity of this procedure, stamped as it is with the associations of crime, is naturally felt as a great hardship by the relatives of insane patients, and leads to applications to the Government for the admission of patients into asylums just as into the ordinary hospitals of the country. It has thus come to pass that about five-sixths of the cases detained in asylums are *outside the provisions of the law*, and are detained by virtue of instructions or provisions of circulars issued by the Colonial Secretary. "This," says the Inspector, "is a condition of things which, notwithstanding all the safeguards imposed by the circulars, is not to the public advantage, and, furthermore, it places medical men and asylum superintendents in a position in which it is not right they should be placed." We strongly sympathise with the lunacy authorities and others concerned in the administration of a system so hapless and inadequate, and yet so fraught with possible evils; and the experience of the mother country in respect of legal troubles arising from defective lunacy regulations fully justifies us in urging the Cape Government to take up this question, and deal with it efficiently by passing an Act which will provide, among other things, for the admission of ordinary cases of insanity into asylums as distinguished from the criminal and dangerous cases. This desideratum is pointed out by the Inspector in his report, and it has been making itself felt in the public mind at the Cape for some time. The *Cape Argus* of June 11th, 1891, referring to a then recent decision of the Supreme Court in a lunacy case, says: "As the law now stands, it is not very likely that any medical practitioner will subject himself to the risk of prosecution for causing the illegal detention of a patient in an asylum by signing a lunacy certificate *unless it is clearly a case for police intervention*. Money may be squandered, cheques may be forged, property sold and transferred by men and women of disordered intellect who are morally irresponsible for their actions; and yet, unless they are certified to be 'dangerous,' they cannot be brought under the discipline of an asylum so as to hasten their recovery in the early and curable stage of their mental disease." By all means safeguard the lunatic's rights, but let not an Act of Parliament inflict upon him the unique unkindness of compelling his treatment to be delayed until he has murdered somebody or otherwise incriminated himself by violence.

Another matter to which the Inspector calls attention is the question of private asylums or houses for paying insane patients. "At present insane patients may be kept in private houses without the knowledge or sanction of the Government. No licences are required, and there is no official supervision such as is wisely deemed essential in the public asylums of the country." There can be no doubt whatever that the Inspector is right in expressing a strong opinion that the State should have knowledge of these cases and exercise some supervision over them.

Turning from these defects which we have selected for special reference, and which we hope will meet with as speedy a remedy as possible, we are glad to see that the Inspector is able to record that during the year considerable progress has been made in the direction of the more enlightened treatment of the insane. The regulations relating to the patients admitted under the authority of the Colonial Secretary have been remodelled with a view to guarding against vexatious delays in the admission and discharge of patients. Much attention is given to the employment of patients, with very creditable result. Daily walks beyond the limits of the airing courts are arranged; high enclosing walls are in some instances in process of demolition; amusements are more liberally provided; greater variety has been introduced into the dietaries of the patients; and their wards, which are their homes, have been brightened and made more cheerful. With such treatment, says the Inspector, it is not to be wondered at that there is a gratifying diminution in the amount of seclusion and restraint.

We congratulate Dr. Dodds and his coadjutors on these happy and encouraging features of the year's work. The year has been to some extent one of reorganisation; but the spirit and the object of the Cape asylums will continue to be embodied in their motto, "to cure the curable and to brighten the lives of those who cannot be cured."

THE VIRCHOW "FESTSCHRIFT."[1]

ONE of the most pleasing features of the recent celebration of the seventieth birthday of Professor Virchow was the presentation to him of a literary monument erected in his honour by many of the most distinguished followers of medical science in all parts of the world, who availed themselves of this opportunity of expressing their regard for his devoted labours in that field. This work is published in three bulky and handsome volumes, which are produced in a style seldom seen in medical publications. Printing and paper are of the best, and each volume is illustrated by many beautifully executed plates. The monographs which they contain are contributed by fifty-four writers, and the close of each is subscribed with a facsimile of its author's signature. The production has been edited by Dr. Israel, who writes the "dedication," in which he gracefully alludes to the far-reaching influence of Virchow's example, and refers to the groundwork of pathology which he established. It is interesting to learn that the honoraria which the publishers intended for the writers are, at the wish of the latter, to go towards the funds for the Rudolf Virchow Stiftung. We may briefly recount the contents of this remarkable production, which will show how varied and valuable they are. It may be added that another "Festschrift" has been issued by Virchow's younger pupils.

Volume I. contains essays on subjects of anatomy, physiology, and developmental disorders. Dr. W. Waldeyer (Berlin) gives a very elaborate and minute description of the "Gibbon-Brain," preceded by an ample discussion of the studies hitherto made of this subject. He concludes that in many essential features the brain of Hylobates approximates to the anthropoid characters, whilst at the same time in other respects it is of the pithecoid type. Professor G. Retzius (Stockholm) describes the characters of the "Brain of a Laplander" in a memoir of much anthropological as well as anatomical interest. He shows that the brain is that of the typical brachycephalic form, but that it does not present, either in its convolutions or sulci, any racial characteristics. Dr. W. Braune (Leipzic) studies the "Horizontal Plane of the Human Skull," a subject of considerable importance in craniology, and he points out that this varies at different periods of life owing to the changed position of the head in the erect posture. The line of measurement which he takes is that drawn from the auditory canal to the orbit, and he shows that, owing to facial asymmetry, the projection of these lines from each side towards the mesian plane often forms a slight angle, which, however, is of no racial significance. Professor G. Schwalbe (Strasburg) makes a "Contribution to the Anthropology of the Ear," a detailed study of its external form, which is suggested by the curious point dwelt on by Darwin from the observations of Woolner. Dr. Ludwig Stieda (Königsberg) describes the "Tuberosity of the Palate" (torus palatinus), a projection of the hard palate which was first pointed out by Kupffer and B. Hagen in 1879, although it had been alluded to by previous writers. Those writers thought it peculiar to the Prussian-Lithuanian skull; but from an examination (with Skrzecka) of 1500 skulls, Dr. Stieda finds that it is of no anthropological significance. The prominence may be of a spindle shape or exist as a flattened elevation, and is very constant in the Peruvian skull, rarest in the Negro. Professor W. His (Leipsic) writes on "Open Questions in Pathological Embryology," in which he draws especial attention to the singular fact that after the death of the fœtus the membranes continue to develop and the amniotic fluid to increase, whilst the dead embryo becomes infiltrated with cells, the source of which it is difficult to explain. He asks, too, what is the cause of intra-uterine death, and whether it may not often be due to primary defects in the impregnated ovum. Dr. Oscar Hertwig (Berlin) describes the effects on "Nuclear Segmentation of Experimental Irritation"; and a new contribution to histology is the interesting study of the "Developmental History of Connective Tissue Fibrils," by Dr. W. Flemming (Kiel). Dr. Hans Virchow (the son of the world-famed professor) has a lengthy memoir on the "Yelk Sac of the Chick," in which he pursues a subject which he made the topic of his inaugural dissertation. The developmental changes of the sac, its epithelium, the destiny of its cells, the formation of bloodvessels, and, indeed, every point concerning this structure, is fully described in this very important contribution to embryology. Dr. H. Munk (Berlin) has a physiological article on the "Spheres of Vision and Space Conception," with especial reference to cerebral localisation. Professor Victor Horsley contributes a historical and critical study on the "Function of the Thyroid Gland" (translated by Dr. Klemperer). He enumerates no fewer than ten different hypotheses which have at various times been put forward to explain the office of this organ, and concludes that the last of these—namely, that it alters or destroys substances which, if gaining entrance into the blood, would be injurious, and that it secretes a material subserving metabolism—is the most feasible. He then discusses the arguments derived from artificial thyroidectomy in relation to myxœdema and to cretinism. The distribution of thyroid tissue in the body is described, and its relations to the pineal gland, and the effects of extirpation of the thyroid are shown to result in disorder of nutrition, which may be evinced in (1) neurotic symptoms, (2) myxœdema, and (3) cretinism. The ever-interesting and still unsettled question of the mechanism of "Heat-production in Fever" forms the contribution by Dr. Rosenthal (Erlangen). It is based on calorimetrical observations in animals in whom fever was artificially excited, and the writer claims to have shown that the generally accepted notion of an increase in thermogenesis in the febrile state is not founded on facts. Dr. C. A. Pekelharing (Utrecht) discusses the importance of "Lime Salts in the Coagulation of the Blood," and Professor Bizzozero (Turin) deals with the subject with which his name is so linked—namely, that of "Blood-platelets." He finds that by repeated venesections and the reinjection of the defibrinated blood the fluid is quite deprived of the platelets and does not clot, showing that these structures are not essential to life; but their regeneration is very rapid, so that within five days the blood may again clot in as many or even more than before the operation. Another contribution to hæmatology is the next article, embodying some new researches on the "Formation of the Elements of the Blood," by Dr. Pio Foa (Turin). It opens with a full historical sketch of the progress of knowledge in this matter, and describes the bone marrow of mammals and birds, and the part played in hæmatopoiesis by the spleen in guinea-pigs and the embryonic liver. Dr. Foa states that the red corpuscles come from very various sources, and that consequently they present variations in their constitution and form, which may become more apparent in disease, according as one or other type predominates. Dr. F. Marchand (Marburg) has a memoir on the "Carotid Gland and Adrenals," with reference to their normal and pathological anatomy. He gives an interesting account of a case of tumour of the carotid gland, and another of hyperplasia of the adrenals associated with "pseudo-hermaphroditismus femininus." He also describes a case of a malignant adrenal tumour. The "Normal and Pathological Anatomy of the Human Placenta" is the theme of a paper by Professor Ackermann (Halle). Dr. F. Jolly (Berlin) writes on "Polydactilism associated with Malformation of the Arm"; and the volume closes with an anatomical description of a monstrosity, "Thoracopagus Omphalopagus," by Dr. A. Jacobi (New York).

(To be continued.)

[1] Internationale Beiträge zur wissenschaftlichen Medicin-Festschrift Rudolf Virchow, gewidmet zur Vollendung seines 70. Lebensjahres. Berlin: Aug. Hirschwald, 1891. (London: Williams and Norgate.)

PROFESSOR PICTET'S RESEARCHES.

THE CRYSTALLISATION AND PURIFICATION OF CHLOROFORM.

PROFESSOR PICTET, it is gratifying to hear, is indefatigable in the prosecution of his famous researches on the condition of matter under high pressure and at very low temperature. His name will ever find a place in text-books as the man who first reduced hydrogen and oxygen to the liquid condition. The eminent investigator, who comes from Geneva, has recently established in Berlin, on the scale of a small factory, what he terms a *laboratoire à basses températures*. The refrigerating machinery which has been

set up here, and which is driven by several powerful steam engines, is calculated to withdraw heat from the objects under observation, and to maintain them at a temperature between −20 and −200° C. as long as may be required. For this purpose, among the refrigerating processes known, such as the rarefaction of gases, dissolution of salts, and evaporation of liquids, the latter is to be preferred. The liquid made use of in the first stage of the refrigerating process is the mixture of sulphurous acid and a small percentage of carbonic acid termed "liquide Pictet." It is condensed at a pressure of about two atmospheres in a spiral tube, merely cooled by running water. For the second stage oxide of nitrogen (N_2O) is chosen. The vapours are condensed in the same way at a pressure of about five or six times as great in a tube maintained at about −85° by the action of the first circuit or spiral. Atmospheric air, which is employed in the third stage, passes into the liquid state at a pressure of no more than seventy-five atmospheres, provided the condenser is kept at −135° C. by the first two circuits. The evaporation of the liquefied air causes the thermometer to fall below −200°. It is probable that the definition of certain laws will have to undergo considerable modification with regard to changes at an extremely low temperature. For example, radiation under ordinary conditions of temperature is very different from that taking place at extremely low temperatures, in spite of the precautions that may be adopted. Material that is ordinarily considered a non-conductor of heat does not appear to affect the passage of heat into a body cooled down to below −100°. As Professor Pictet holds, "the slow oscillations of matter which constitute the lowest degrees of heat pass more readily through the obstruction of a so-called non-conductor than those corresponding to a higher temperature, just as the less intense undulations of the red light are better able to penetrate clouds of dust or vapour than those of the blue." If the natural rise of temperature in the refrigerator, starting from −135° C., is noted in a tracing, and afterwards the same refrigerator carefully packed in a covering of cotton-wool of more than half a yard in thickness, and cooled down afresh, and the rise of temperature again marked, on comparing the tracings hardly any difference will be found in the two curves up to −100°, and only a very slight deviation even up to −50°. On this ground it is probable that the utmost limit of cold that can possibly be attained is not much lower than that reached in the famous experiment of liquefaction of hydrogen. The quantity of warmth which hourly floods a cylinder 1250 mm. high by 210 mm. wide, at −80°, is no less than 600 calories, and no packing will keep it out. At lower temperatures, the radiation being even greater, the power of machinery intended to draw off still more heat would have to be enormous, and as −273° is absolute zero, the utmost Professor Pictet judges to be attainable is about −255°.

The results that have been accomplished by employing such a powerful refrigerating machine as that which Prof. Pictet has recently constructed are, it will be admitted, surprising. The elasticity of mercury has, for example, been measured. For this purpose the metal was cast into the shape of a tuning-fork, and frozen hard enough to make the necessary observations. It is stated that the metal can be shown in the crystallised state, and the crystals exhibit a beautiful, fern-like appearance. Glycerine was successfully crystallised, and cognac on thawing was found to possess that peculiar mellowness characteristic of a long-kept spirit. Of paramount importance, however, are the results obtained on freezing chloroform. It is well-known that chloroform, owing possibly to the mere traces of impurities retained from the different processes of manufacture, has been considered a most unstable and easily contaminated substance. The action of sunlight in particular has been to set up more or less marked decomposition, and accordingly a minute amount of alcohol is added to the chloroform of the Pharmacopœia in order to render it stable. Now, by the simple process of crystallisation—a process so often employed in chemistry to separate the pure from the crude product—this unstableness is got rid of, and a practically unchangeable liquid, it is stated, is produced. The crystals began to form at −68° C, first covering the bottom of the vessel and gradually filling it up to within one-fifth of the whole volume. The residue is drawn off, and the frozen part is allowed to melt under cover. Chloroform thus refined showed no signs of decomposition, even when exposed on a roof in a light-brown bottle from November till June. The importance of this discovery is yet to be seen, and medical men will await with the keenest interest the results of the anæsthetic employment of this pure product, for it would indeed mark a most important epoch in medicine if it were found that the action of chloroform so refined were more certain and more reliable. Then the varying effects of the preparation hitherto used, which have so long puzzled administrators, would at length receive explanation. Purification by refrigeration and subsequent separation of the unsophisticated product will no doubt apply in the case of many other bodies. Ether, for example, has by a similar process been prepared in a state of purity hitherto unattained. Meanwhile it is interesting to be assured that Professor Pictet continues eagerly to pursue his purely scientific investigations, which in their commencement decided for ever that it is only physical conditions like temperature and pressure which determine as to whether matter shall be solid, liquid, or gaseous.

LIFE ASSURANCE AND THE MEDICAL PROFESSION.

THE pressure of matter relating to this topic in our impression of last week, involving as it did the dedication of an additional page to the purposes of a Supplement which was intended to extend only to eight pages, compelled us then to hold over the correspondence elicited by an annotation which appeared in THE LANCET of the 17th ult. To our correspondents collectively we now return our thanks for their very valuable communications, which have been prepared in many cases at no small personal cost of trouble. Their letters are too numerous for publication or individual notice; but the general effect may without much difficulty be stated within the compass of a short article.

The most formidable difficulty in the way of a medical man who wishes to insure his life and to effect his insurance with the office which will offer him the best return is the perplexity into which he falls when he comes to compare the statements put forward by the different offices, by reason of their differing so widely as to the ground which they take up. We have for example a very full and circumstantial narrative from one of our correspondents, who recently took the pains to obtain quotations of a premium rate for a contemplated policy from eleven different offices. When he compared the rates he found them range from a little over £57 to a little above £62 for an assurance of £1000, and he would doubtless have found, if he could have made the comparison, that the range of variation in bonus-giving power would have been more striking still. But when he attempted to work out the bonus-comparison he found himself presented with a problem of such extreme complexity that he was compelled to abandon the attempt. Every office has its own particular way of distributing bonus, and nothing but an actuarial calculation can determine how much in the shape of, say, addition to the sum assured is equivalent to an abatement of £1 from an annual premium. It would be perfectly easy for the companies, were they interested in making this matter plain, to reduce all their bonus allotments to the common expression of a cash equivalent. It would then be a simple matter to compare the bonus-giving power of one office with that of another, for the form in which the bonus is given, whether by reversionary addition to the benefit or present reduction of the premium under a policy, is the merest matter of detail. This, however, is precisely what the offices do not attempt at the present time, and as such clear and easily intelligible statements could not advance the business interests of such as would compare at disadvantage, it must obviously be the interest of all the offices but one to maintain the existing obscurity. Little, therefore, can be expected in this direction, and our correspondent took what we think is the undoubtedly wise course, and, in abandoning a hopeless inquiry, selected the office which on the available data offered the best result.

Another point to which attention is strongly drawn in our correspondence is the importance of early insurance. Young men are apt to set light store by a matter of this kind, and to delay effecting assurance until the necessity becomes pressing. In a measure this is reasonable enough, for, speaking generally, a man's means are proportioned to his

responsibilities, and it is not in the power of young, unmarried men, as a rule, to maintain the amount of insurance which, a little later on in life, is not only demanded by their circumstances, but also well within their compass. This, however, does not invalidate the contention that young men should be encouraged to look ahead, and, by the exercise of a wise forethought and prudent self-denial, lighten the burden of the later years, which, even in the case of a fairly prosperous practitioner, are full enough of pecuniary demands.

A point upon which some needless apprehension appears to exist is that of the ordeal of medical selection. It is indeed a little strange to find this a source of trouble to our readers, for although medical practitioners cannot by any means claim immunity in this particular from "the ills that flesh is heir to," they might reasonably be expected to take a calmer view than some other people of the medical examination. One of our correspondents is troubled as to the proportion of proposed lives which are either declined or subjected to special rates as unsafe risks. The figures which would illustrate this point we have not at hand, nor indeed are we aware that they exist, unless possibly in a fragmentary form in the shape of chance references here and there in the annual report of one company or another. But we understand that the number so declined or charged a special premium is no considerable proportion of the whole, and that the life assurance definition of a first-class life is sufficiently elastic to include almost all men in good health and organically sound.

Other suggestions which have reached us relate very much to the topic which formed the special subject of our Supplement last year—namely, the form of policy which is best adapted to the needs of the medical practitioner. These suggestions have not been overlooked, although the course which the discussion has taken on this occasion has not permitted us to treat them in any sense fully. Our correspondents will, we hope, understand that in dealing with a large subject like this we are obliged to treat it in chapters, so to speak, and although it is not at all congenial to pass over an intrinsically valuable communication on the ground merely that it does not fit precisely into our programme, considerations of time and space, if no others, would alone constrain us to adhere, and to adhere even rigidly to this rule.

There is one point upon which some misunderstanding appears to have arisen, and we must therefore make an opportunity of referring to it again—namely, that of the arrangements by which it is possible to secure policies with certain offices commission free. We published in our Supplement a list of such offices—a list which, by the way, was incomplete in consequence of the inadvertent omission of the name of the London Life Association. In that list an explanatory sentence indicates that some will and some will not pay commission, and it seems to have been supposed that between those that will pay and those that will not pay there must be a great difference. Apart from further explanation this view would be reasonable enough, but we hoped that the further explanation had been clearly given. It is this: Some life offices make it a rule to pay no commission to any person upon premiums—that is to say, they employ no commission-paid agents at all. It follows that all policies effected with these offices are commission free, and this is what is meant to be intimated by including in the following table, now republished with the correction above indicated, certain offices as offices which *pay no commission*. The remaining offices make a practice of paying commission to their own agents on business received or transacted through the agents' intervention. Of these remaining offices, some have agreed to make to a medical man coming to effect an assurance without the intervention of an agent an allowance equal to the agent's commission. In these cases, therefore, a medical man can, if he likes, get his policy commission free, just as with an office of the first-mentioned class. In the result, therefore, it comes to the same thing, and the note which is appended to the entry of the company's name serves only to intimate whether the commission is dealt with by refusing it to anybody, and applying the money that would otherwise be spent on agency commission to the increase of bonus benefits, or by consenting to pay it to the medical proposer, and so enabling him either to add it to his policy in the shape of an enlarged assurance or to receive the benefit of it at once in the shape of diminished premium.

List of offices which either pay no commission on premiums or offer the benefit of the commission to a medical practitioner effecting a policy without the intervention of a commission-paid agent:—

ALLIANCE will pay commission.
BRITISH EQUITABLE will pay commission.
CHURCH OF ENGLAND will pay commission.
CLERGY MUTUAL pays no commission.
COMMERCIAL UNION will pay commission to a medical practitioner willing to accept a "private agency."
EAGLE will pay commission.
EQUITABLE SOCIETY pays no commission.
LONDON LIFE ASSOCIATION pays no commission.
METROPOLITAN pays no commission.
NATIONAL of Ireland will pay commission.
NORWICH UNION will pay commission.
PATRIOTIC will pay commission.
PELICAN will pay commission.
POSITIVE will pay commission.
RELIANCE will pay commission.
UNIVERSITY will pay commission.
YORKSHIRE will pay commission.
IMPERIAL and SCOTTISH EQUITABLE would pay commission to a medical committee or central body.

TEA-TIPPLING.

TEA-DRINKING has recently been the subject of discussion and correspondence in some of our contemporaries, and while some of those who have taken part in the discussion are inclined to ridicule the idea that the habit is injurious, and to treat such a view as the product of an over-anxious imagination, it will be evident to anyone who has paid attention to the subject—and we venture to think that medical men have not been slow to take advantage of their peculiar opportunities for doing so—that it cannot be dismissed with an expression of belief that "tea-drinking has not diminished the native grace and dignity of English-women, and that envy, malice, and all uncharitableness are much more conducive to indigestion than five o'clock tea." That a cup of good tea properly made is for the majority of people both wholesome and refreshing will be admitted by all; but to admit so much is very different from asserting that tea, in the quantity and of the quality in which it is too often partaken by many people, especially women, is a harmless and pleasant beverage. We do not think that men err much in this way. Possibly they betake themselves to more potent if also more harmful liquors, but no one who has seen much of the out-patient departments of our large hospitals can have failed to be struck with the numbers of anæmic and dyspeptic women and white-faced puny children, in whom inquiry elicits the history of indulgence in tea not once but many times a day. This habit is doubtless most prevalent amongst the very poor and is perhaps the result of their poverty. The morning teapot remains "on the hob," food is perhaps scarce, the teapot is handy, and its contents, becoming hourly more poisonous, temporarily satisfy, or at least ward off, hunger. But indulgence in this habit—if we had to do with alcohol, it would be called a vice, and perhaps that term would be the more correct one—produces results almost as serious if not quite so obvious as those which the stronger liquid excites. It produces disinclination for solid food, dyspepsia, and consequent anæmia, and these bring in their train nervousness, depression, and even melancholia. A few weeks ago we referred to the case of a poor woman who was charged with the murder of her two children. From certain writing found in her possession it was evident that she had intended to perish with her children, believing that they were hopelessly ill, and that she herself was slighted by her friends and neighbours. She had suffered from headaches, palpitation, and sleeplessness, and it was found that she had been in the habit of taking large quantities of tea in consequence, as she said, of her troubles, and the divisional surgeon who saw her was of opinion that excessive indulgence in tea had helped to undermine her constitution. Doubtless this is an extreme case, and although it would not be permissible to ascribe the melancholia to excessive tea-drinking, it is

far from improbable that this indulgence was of considerable effect in upsetting an unstable mental equilibrium. And what has been said as regards the evil effects of excessive tea-drinking in women applies even more strongly to children. Unfortunately it is the ambition of many parents, both fathers and mothers, to get their children as soon as possible to have "a share of what is going," and whether this wish arises from the delusion that the ability to do so is a sign of superior robustness, or from the slight saving of trouble in which it may result, of its existence and of the evil effects accruing to the child in consequence of it there can be no doubt.

We desire to assist in impressing upon women especially the fact that the *immoderate* use of their favourite beverage is fraught with considerable danger to health, and that this is especially true of those who lead for the most part an in-door life. Too often, unfortunately, conviction that the habit is injurious comes only after the break down, and the harm which has been done takes a good deal of undoing. It is idle to argue that Australian shepherds or half-savage Tartars drink tea in immoderate quantities, and are none the worse for it. Their mode of life enables them to do many things—we shall not say with impunity—which town dwellers cannot do, and we are convinced that no one living for the most part an in-door city life can continue to indulge freely in tea five or six times a day without suffering for it in the end. Whether or not "envy, malice, and all uncharitableness" are, as some assert, productive of indigestion, there is no doubt that excessive tea-drinking is, and for our own part we are inclined to think that indigestion is at least as often the parent as it is the child of the vices which have been mentioned.

SANITARY WORK IN DUBLIN.

DUBLIN is well supplied with main sewers, the contents of which are discharged into the river Liffey, but a large portion of the city lies so low that the floors of basement stories are below high-water level, and in consequence the sewers cannot continuously empty their contents into the river. The mouths of the sewers are provided with valves which open outwards, and which are closed when the water in the river rises to the level of the sewer mouth, and it follows that the sewers situated near the mouth of the river are often sealed during the greater part of the twenty-four hours. In order to prevent their contents from becoming impounded to such an extent as to prevent the drainage from the houses entering the sewers, powerful steam-pumps are employed to lift the surplus sewage to a level above high water. Dublin therefore is unfavourably placed in respect of its sewage, and at no distant date, as pointed out by Sir Charles Cameron,[1] we may expect to see the Dublin sewage either conveyed to a distant point and discharged into the open sea, or subjected to some precipitation process. On economic and other grounds he prefers the latter method. The decayed condition of a large number of the tenement houses is also a serious factor in the sanitary condition of Dublin. Before 1880 waterclosets were unknown in the tenement houses, some not having any sanitary accommodation at all. Figures would seem to show that ten years' sanitary work, while it has slightly lowered the general death-rate, has apparently greatly reduced the zymotic death-rate. This improvement continues, and during the first thirty weeks of the present year the death-rate was 2·8 under the mean rate for the corresponding period in the previous ten years. Typhus fever, which formerly caused terrible ravages in Dublin, has almost completely disappeared, but no decrease has taken place in typhoid fever.

THE METROPOLITAN POLICE SURGEONS' ASSOCIATION.

THE annual dinner of this important Association was held at the Criterion Restaurant on Thursday, Nov. 12th, under the able presidency of the surgeon-in-chief to the Metropolitan Police, Mr. MacKellar. A large number of members of the Association attended, and the dinner, which was honoured by the presence of several guests of distinction, had its accustomed success. After the usual loyal toasts, Mr. MacKellar proposed "The Navy, Army, and Reserve Forces," for which Dr. Beech Johnston and Dr. Burton responded. Mr. Bruce and the Rev. Mr. Bailey replied to the toast of "Our Guests," also proposed by the President. Mr. Gregono gave the toast of "The Chairman." "The Medical Press" was proposed by Mr. Nelson Hardy, and Mr. Battle replied for the Editors of THE LANCET. The toast of the evening was proposed by Mr. Farr, and replied to by Mr. MacKellar, who referred to the growth and extension of the Association. "The Dinner Committee" was proposed by Mr. Phillips, and replied to by Dr. Waters. During the evening some excellent glees &c. were given by members of the Lyric Vocal Union. Songs were sung by Miss Kellaway and Mr. C. E. Yarrow, which gave great pleasure to the audience. Before the dinner the annual meeting for the election of officers and the presentation of the report was held.

[1] Report upon the State of the Public Health of Dublin for 1890.

CHARING-CROSS HOSPITAL.

THE triennial festival of the governors and friends of Charing-cross Hospital was held on Tuesday, 17th inst., at the Hôtel Métropole, under the presidency of the Right Honourable David Evans, the Lord Mayor. In submitting the toast of "The Prince and Princess of Wales and the rest of the Royal Family," the chairman, who was cordially received, and to whom we venture to offer our congratulations on the fact that his first public duty was discharged on behalf of a medical charity, referred in sympathetic terms to the cloud now overhanging Marlborough House, and expressed an earnest hope for the speedy recovery of Prince George. Sir Joseph Fayrer proposed "The Navy, the Army, and Reserve Forces," for which Sir John Corbett, General Kent, and Colonel Ward respectively replied. The chairman then asked the company to drink "Prosperity to Charing-cross Hospital." Of all the charities which Lord Mayors were called upon to promote, he said none were more worthy of support than this. The hospital was in the very heart of London, and the importance of the work it did could hardly be exaggerated. During the past three years it had not been prosperous, partly in consequence of the agricultural depression that had fallen upon the country. The receipts during this period had amounted to £28,000, the expenditure to £42,000. While the sum received from legacies showed a great falling-off, the number of patients had steadily increased. Mr. Passmore Edwards had written to the treasurer: "I have good reason to know the great good that the hospital is doing, and that it is a permanent blessing to central London, and, in fact, to the public in general. I also know what a pressing need there is for a convalescent home in connexion with the hospital. I have, consequently, watched with interest and anxiety the efforts made for some time past to secure such a home, and have been a little surprised at the slow progress made towards its attainment. I therefore ask the privilege to be allowed to build and furnish, solely at my own expense, a convalescent home with accommodation for fifty beds; and I beg, as an earnest of my intention, to enclose a cheque for £5000, and I hereby undertake to give a cheque for the remainder of the estimated cost of the home when its foundation-stone is laid. The only condition I attach to the gift is that the home shall remain in perpetuity under the control of the governors and the council of Charing-cross Hospital." The Lord Mayor said that he was delighted that it had fallen to his lot to announce this splendid gift, which he hoped would act as an incentive, and not as a deterrent, to further charity. Mr. Martin acknowledged the toast, incidentally stating that on the day of the great Trafalgar-square meeting no fewer than ninety cases of injury were treated in the hospital. Sir John Puleston proposed "The Medical Staff," for whom Dr. Green responded. The secretary announced donations to the amount of £7576, including the £5000 from Mr. Passmore Edwards.

DEPUTY CORONER FOR OSWESTRY DISTRICT.—The Lord Chancellor has confirmed the appointment of Dr. John Griffiths, of Oswestry, to the office of deputy coroner for the Oswestry district.

Public Health and Poor Law

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Stockton-on-Tees Urban District.—Mr. J. H. Clegg, in opening his annual report for 1890, states that, in his opinion, the serious epidemic of typhoid fever which prevailed last year in the district was traced to its source owing, in the main, to the working of the Act relating to compulsory notification. It will be recollected, from our comments on Dr. Barry's report, how serious this epidemic was, the outbreak having its source in polluted river water, which led directly or indirectly to swell the total annual number of typhoid fever attacks to 396, with 45 deaths. Had all investigation been deferred until a sufficient number of deaths had sounded a warning, the investigation might have been much more difficult and the prevalence more serious. No less than 324 cases of scarlet fever occurred, but real isolation appears hardly to have been contemplated, for only 22 cases were sent to Middlesbrough Hospital and 11 to the Durham-road Hospital. These numbers, and the number of cases reported, do not quite tally with Mr. Clegg's report, the report of the sanitary inspector, which is appended, giving different figures. The annual death-rate was 21·8 per 1000, the increase beyond the average being mainly due to phthisis, diseases of the respiratory organs, and typhoid fever.

Huddersfield Urban District.—Dr. J. R. Kaye has issued an excellent report for his first year of office. He calculates the birth-rates and death-rates as 22·6 and 18·8 per 1000 respectively during 1890, and he discusses the significance of the various vital statistics at some length. A slight outbreak of small-pox had its origin in an obscure and unreported case. The history of each zymotic disease is considered in the report, the directions for its prevention, as locally issued, are set out, and the conditions tending to the production of each disease are pointed out. The other forms of prevalent disease are dealt with in much the same way; the meteorology of the district is considered in its bearing upon health, and then comes a very complete record of the operations of the sanitary department during the year. If the same completeness of record is maintained every year, the series of reports will have distinct value in promoting public health. Doubtless, in the future, we shall find that an account of advice to the sanitary authority will take a prominent place in the volume, and when each subject comes thus to be dealt with under a different heading, a table of contents will materially facilitate reference to the volume.

Wolstanton and Burslem Rural District.—On a population of 36,311 Mr. Collenette records a death-rate for 1890 of 18·3 per 1000. There was a somewhat conspicuous absence of death from many of the zymotic causes; but scarlet fever, with ten deaths, was somewhat prevalent. The people do not accept isolation in hospital freely, and hence preventive action is necessarily hindered. A statement is made in the report of the more substantial works carried out during the last ten years, and these constitute a fair record. Minor matters still need attention, and notably the scavenging of privies, which, in a district of this sort, ought not, we think, to be imposed by by-law on occupiers. The authority should, in all populous places, undertake the task themselves.

Ipswich Urban District.—After recording the death-rate for 1890 at 19·6 per 1000, and explaining that zymotic diseases had reached the unduly high rate of 3·32 per 1000, Dr. Elliston proceeds to discuss the general sanitary circumstances and the causes of death in this urban district. In 1889 there had been a marked prevalence of diphtheria, and the prevalence was maintained during 1890, abating, as it commonly does, in the summer and recovering its potency for spread and for death towards October. The disease was evidently very infectious, and its main incidence was on people living in damp or exposed localities; especially where foulness of air from drains and midden-pits contributed to the unhealthy surroundings. School influence was also clearly in operation. Dr. Elliston holds the view that when a town has had much diphtheria the sewers tend to become specifically contaminated with the diphtheria germ. This view has been a good deal discussed of late, and it is one deserving of careful investigation. But we hardly think any reader of this report should go beyond what Dr. Elliston states as regards the results of the disinfection of the sewers by corrosive sublimate. He contents himself by saying that the process was attended by good results. But he is careful to point out that the measure was adopted precisely at the date when diphtheria tends to decline, and this quite apart from all measures of prevention; and he adds that the amount of disinfectant, when compared with the volume of sewage, was such that no trace of the mercury could be detected at the outfall in two out of three analyses, a trace only being found in the third. We almost fear that, unless the "germicide" as used had done its work and lost its power before reaching the outfall, the act of flushing combined with seasonal influences may have had a by no means unimportant share in the good results attained. So far as the effluent at the outfall is concerned, it is admitted that it was "practically harmless" to fish. As regards the future, one of the most important steps to take will be the instant elimination of cases of so-called "sore-throat" from all the elementary schools, and to get rid of "foul midden-pits," which are admittedly a nuisance, and a cause of disease and death. No such structure ought to be tolerated in Ipswich.

Sunderland Port District.—This port was exceptionally free from sickness during 1890; but the sanitary inspection of the shipping was maintained in an efficient manner. In all 6052 vessels entered the port, and, as in other ports, much good work is done in improving their condition. Even if a vessel leaves before performing any work ordered, she is met at the port of arrival by a similar demand, and in the end it answers best to comply at once with the order issued. Gradually the percentage of vessels coming thus within Mr. Harris's jurisdiction, and of which it can be said that they are in a proper sanitary condition, is increasing.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5558 births and 3707 deaths were registered during the week ending Nov. 14th. The annual rate of mortality in these towns, which had been 18·1 and 19·3 per 1000 in the preceding two weeks, further rose last week to 20·6. The rate was 19·6 in London and 21·3 in the twenty-seven provincial towns. During the first six weeks of the current quarter the death-rate in the twenty-eight towns averaged 18·9 per 1000, and was 1·6 below the mean rate in the corresponding periods of the ten years 1881–90. The lowest rates in these towns last week were 15·1 in Leeds, 15·6 in Portsmouth, 15·8 in Brighton, and 16·3 in Bradford; the highest rates were 26·8 in Bradford, 26·9 in Oldham, 27·9 in Manchester, and 33·0 in Sunderland. The deaths referred to the principal zymotic diseases, which had been 331 and 366 in the preceding two weeks, further rose last week to 399; they included 109 from whooping-cough, 93 from measles, 66 from diarrhœa, 59 from "fever" (principally enteric), 42 from diphtheria, 30 from scarlet fever, and not one from small-pox. The lowest death-rates from these diseases were recorded in Huddersfield, Bristol, Oldham, and Brighton; and the highest in Wolverhampton, Manchester, Sunderland, and Newcastle-upon-Tyne. The greatest mortality from measles occurred in Liverpool, Manchester, Sunderland, Norwich, and Newcastle-upon-Tyne; from whooping-cough in Plymouth, Manchester, Bradford, and Newcastle-upon-Tyne; from "fever" in Portsmouth, Salford, Preston, and Sunderland; and from diarrhœa in Preston and Bolton. The mortality from scarlet fever showed no marked excess in any of the twenty-eight towns. The 42 deaths from diphtheria included 24 in London, 3 in Derby, and 3 in Cardiff. No death from small-pox was registered in any of the twenty-eight towns, and one case of small-pox was under treatment in the Metropolitan Asylum Hospital at Dartford, but not one in the Highgate Small-pox Hospital. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1479, against numbers increasing from 947 to 1434 at the end of the preceding ten weeks; the patients admitted during the week were 174, against 139 and 154

in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had increased in the preceding six weeks from 171 to 329, further rose last week to 370, but were 34 below the corrected average. The causes of 82, or 2·2 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bolton, Oldham, Sunderland, Newcastle-upon-Tyne, and in five other smaller towns; the largest proportions of uncertified deaths were recorded in Salford, Blackburn, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased from 18·7 to 25·2 per 1000 in the preceding four weeks, further rose to 28·4 during the week ending Nov. 14th, and exceeded by 7·8 the mean rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 20·8 in Leith and 24·9 in Paisley, to 33·8 in Perth and 34·3 in Dundee. The 732 deaths in these towns showed an increase of 83 upon the number in the preceding week, and included 21 which were referred to "fever," 14 to diarrhœa, 10 to whooping-cough, 9 to measles, 8 to scarlet fever, 5 to diphtheria, and not one to small-pox. In all, 67 deaths resulted from these principal zymotic diseases, against 52 and 59 in the preceding two weeks. These 67 deaths were equal to an annual rate of 2·6 per 1000, which exceeded by 0·4 the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of "fever," which had been 5 and 10 in the preceding two weeks, further rose last week to 21, of which 10 occurred in Glasgow and 4 in Edinburgh. The 14 deaths from diarrhœa also showed a further increase upon recent weekly numbers, and included 5 in Glasgow and 4 in Greenock. The 10 fatal cases of whooping-cough exceeded by 3 the number in the preceding week, and included 6 in Glasgow, where 8 of the 9 deaths from measles were also recorded. The 8 fatal cases of scarlet fever were within 2 of the number in the previous week, and included 3 in Aberdeen and 2 in Edinburgh. The deaths from diphtheria, which had been 9 and 7 in the preceding two weeks, further declined last week to 5, of which 3 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had increased in the previous three weeks from 98 to 210, further rose last week to 262, and exceeded by as many as 125 the number in the corresponding week of last year. The causes of 67, or more than 9 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the preceding three weeks from 23·0 to 31·4 per 1000, declined again to 28·8 during the week ending Nov. 14th. During the past six weeks of the current quarter the death-rate in the city averaged 25·8 per 1000, against 17·6 in London and 18·2 in Edinburgh. The 192 deaths in Dublin during the week under notice showed a decline of 17 from the number in the preceding week, and included 6 which were referred to "fever," 5 to whooping-cough, 4 to diarrhœa, and not one either to small-pox, measles, scarlet fever, or diphtheria. In all, 15 deaths resulted from these principal zymotic diseases, equal to an annual rate of 2·3 per 1000, the death-rate during the same period being 2·0 in London and 2·0 in Edinburgh. The fatal cases of "fever," which had increased in the preceding three weeks, from 5 to 14, declined again to 6 last week. The deaths referred to whooping-cough, which had fallen from 4 to 1 in the previous three weeks, rose again to 5 last week. The 4 fatal cases of diarrhœa were below those recorded in any recent week. The 192 deaths registered in Dublin included 38 of infants under one year of age, and 55 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons exceeded the number recorded in any week since April last. Nine inquest cases and 7 deaths from violence were registered; and 78, or more than a third, of the deaths occurred in public institutions. The causes of 18, or more than 9 per cent., of the deaths in the city were not certified.

Correspondence.

"Audi alteram partem."

THE CONJOINT BOARD AND THE FIVE YEARS' CURRICULUM.

To the Editors of THE LANCET.

SIRS,—During the last few weeks the Colleges of Physicians and Surgeons have had under consideration a scheme of education which it is proposed to enforce when the new five years' curriculum is entered on. Two reports have been issued, one by each of these two bodies, which differ only in certain details; on the main principles of the scheme both are agreed. In place of the present three examinations four are suggested. To the first examination Elementary Biology is to be added, and Elementary Physiology is to be omitted. It is difficult to see why Elementary Anatomy should be retained; but we may let this pass. The second examination is to remain practically the same as it is at present. It is when we come to the subjects of Medicine, Surgery, and Midwifery that we find the most radical proposals before us. The present final examination is to be divided into two, one half of which is to be passed at the end of the fourth year, and the remainder at the end of the fifth. The Pathology and book work are to be taken in the front of these two examinations, and the clinical work in the second. How, in the name of common sense, are these two aspects of disease to be separated? Is the examiner to be debarred from alluding to the appearances of a strumous knee-joint, while he may enlarge on the number of bacilli to be found in its interior? Or how is he to discuss the symptoms and treatment of stone in the bladder with a candidate, if he may not allude to the structure and formation of the calculus? These may appear to be exaggerated examples of what will be likely to occur, but they are not so if the regulations which are laid down are anything more than waste paper. And how is the candidate to determine, or how is his teacher to tell him, what are to be the limits of examination in each part of the final? I believe it is quite impossible, and, even if it were possible, the tendency of such a plan would be to check clinical work, and not to augment it; for the student would defer his ward work to the year preceding the final examination in clinical work. From conversations which I have had with those who are best capable of forming an opinion on such subjects, I know that many of them are bitterly opposed to it. I sincerely hope that all those who take the very smallest interest in medical education will use their best endeavours to present the passing of such a scheme, absolutely untried and absolutely unpractical as it is.

Why, we may well ask, was such a scheme ever proposed? Because (at least, so I am informed) those who are responsible for it thought three years too long to leave a student without examination. Already he is over-examined; and in future, I suppose, we are to accept the principle that every student is to be harried with examinations to prevent a few idle fellows from getting into mischief, entirely ignoring the fact that the medical schools to which they belong can and do at the present day look after their students.

In reality, this scheme has been proposed by those who for the most part have ceased to take part in the active work of the medical schools to which they belong, and who assume that every student is to-day a potential Bob Sawyer, as too often was the case when they were students themselves. Nothing affords me greater cause for gratification, when I look around at the student of to-day, than the thought of how vastly superior he is in education and in diligence to the student even of less than twenty years ago; but I am no less surprised often to learn how little this fact is recognised by those whose student days date back much farther than mine. Quite apart from all such considerations, what could be more ill-judged at the present time than the suggestion of such a scheme of education?

Very shortly, probably by next October, the new University for London will have come into being, and all the better students will be desirous to obtain from it the much-coveted M.D., apart from the other advantages which it will have to offer. It is not for one moment likely that the Council of the University and its medical faculty,

which will number a very considerable sprinkling of younger men amongst its members, will accept this brand-new and untried scheme. On the contrary, it is far more probable that the more natural division into three examinations will be accepted. If so, why should the student patronise the Colleges for which he will have no longer any need? It is true that a proviso has been inserted in the Charter, requiring the graduate of the new University to obtain a licence to practise from some one of the present licensing bodies before the M.D. Albert will be granted him; but, to judge from what occurred in the case of the Victoria University, it is unlikely this proviso will be long insisted on. Even if it should be, the Apothecaries' Hall will find no difficulty in giving a licence to practise, whilst the M.D. and M.S. will be obtainable from the University.

I am, Sirs, yours &c.,

Harley-street, Nov. 17th, 1891. W. BRUCE CLARKE.

ON THE SPREAD OF INFLUENZA BY CONTAGION.

To the Editors of THE LANCET.

SIRS,—As the influenza appears to be again on the war-path in several places, with its characteristic fatality, the method of assuming its epidemic functions is of considerable interest to the public and the profession at the present moment. If the profession is to cope with it as it should do, it can only be by recognising the fact that it becomes epidemic by contagion, and the theory that it spreads by a miasmatic influence should be buried in oblivion.

I have read with much interest the excellent paper by Dr. Richard Sisley in THE LANCET of this week, and in exemplification of his researches I should like to add my own experience of the last two epidemics, for there are few positions held by members of my profession more suitable for obtaining correct information in such a case than that which I have the honour to hold in connexion with Rugby School. During the early days of January, 1890, when the influenza was spreading all over the country, as the boys would be coming from many infected districts, the head master consulted me as to whether the school should reassemble as usual; and seeing that no end was to be gained by such a prohibition, as the whole country was involved, I advised that no exception should be made, and that the school should fulfil its functions. I also arranged with the head master the course to be pursued in the event of a large number falling ill at the same time; for it could not be expected that our ordinary machinery could cope with the whole school becoming sick together. In the face of such an unprecedented epidemic throughout the country, frequently prostrating whole establishments within a day or two of each other, I resolved, from the few cases I had then seen, and from what I had read of the epidemic elsewhere, that the only cautious and safe plan, in dealing with such a large number of young people, would be to assume as a working hypothesis that the influenza was a highly infectious malady, and to act accordingly. I came to the conclusion—for my own satisfaction at first, so that I might at least endeavour to contend with my enemy as soon as he approached—that it assumed its epidemic character from contagion, and that it became so virulent because the season was suitable for the growth and development of the poison, and the soil of the human being was in a fit state for the germs to develop true. I therefore isolated every case as soon as it arose, as carefully as if I had scarlet fever, small-pox, or diphtheria to deal with, in this way. 1. Every case was at once removed to the sanatorium. 2. Every case, however mild, was kept in bed for five days. 3. Every case was kept another five days at the sanatorium in order to recover strength and to get hardened and disinfected by fresh air. (At the first I had not realised the importance of this, and the mildest cases suffered in consequence.) 4. They then returned to school, and other precautions were taken for some days to prevent cold. 5. With this result, that I saw no after-effects. The school assembled on Jan. 17th, 1890. The first case occurred on Jan. 23rd, and the last on March 10th, 1890. During these six weeks forty-six cases arose, and amongst these there were two cases of otitis, without suppuration, but with the characteristic watery sanious discharge for a day or two. There were no other complications or sequelæ. At this time there were in the school 414 boarders, so that we had only 10·3 per cent. affected. The epidemic affected the school exceedingly kindly, although it was very rife in the town and neighbourhood at the time. This year I have a severer tale to unfold. The school reassembled on Jan. 22nd, 1891. There was not a case of influenza in the school, either mild or severe, until on March 16th I had an acute case of pneumonia, and between that date and March 28th there occurred five cases of pneumonia and one of pleurisy, evidently incidental to influenza, although there were no premonitory symptoms of influenza. The storm raged between March 16th and July 25th, with a vacation from April 2nd to May 1st, during which time, although the above strict precautions were taken, we had eighty-four cases, one of which commenced with cerebral symptoms and died of cerebro-spinal meningitis in fifty-eight hours. This was the only fatal case in both epidemics. Two of the above cases of pneumonia developed empyema, without prior pleuritic effusion, both of which were drained by removal of portion of rib; in the one the wound was closed in five weeks, in the other a month. There were no sequelæ following the ordinary cases of influenza of any sort or kind—owing, as I believe, to every case being kept in bed for five days, and being taken the greatest care of for five days longer. At the time of this epidemic there were 447 boarders in the school, so that only 19 per cent. suffered during this epidemic. Taking the two epidemics together, 15·1 per cent. were victims. At another large school under my medical care, where the means of isolation were not so perfect, in the 1890 epidemic there was no influenza, while in the 1891 epidemic exactly 50 per cent. were infected. In another school with which I am acquainted, where no isolation was attempted, 94 per cent. were seized with the illness in the first epidemic, and not a case during the second. Moreover, one attack usually protects against a second, for I find that of my total number of cases in the school, 46 + 84 = 130, only four had the illness a second time—that is, about 3 per cent. It should be borne in mind that I am only speaking of what I found, and I should add that my experience only records that of a very healthy district, and amongst well-to-do boys. In my private practice during the first epidemic, if a case occurred in a house where isolation was imperfect, the whole household usually succumbed to it; and, further, many houses in country and town, which were victims during the first epidemic, were free during the second, and those houses which escaped during the first suffered during the second epidemic. I do not believe in the virtues of quinine as a prophylactic; for while many were saturated with it, yet as soon as they came in contact with the poison they became infected with the disease.

It seems to me, therefore, from the above record that we have a contagious disease to deal with, and one that becomes epidemic because of its infectiousness.

I am, Sirs, yours faithfully,

CLEMENT DUKES, M.D., M.R.C.P. Lond.,
Physician to Rugby School; Sen. Physician to Rugby Hospital.

Rugby, Nov. 16th, 1891.

To the Editors of THE LANCET.

SIRS,—I have just been reading a very interesting communication upon this subject by Dr. Sisley to the Epidemiological Society. He asks for further information. I should like to supplement his remarks by a reference to the behaviour of somewhat similar diseases in the animal and vegetable kingdoms. I made a very comprehensive study of the potato blight when it inflicted so much damage some eighteen years ago. The disease was propagated by spores. A few of these, transported by any means, gave the disease to the plant on which they fell. This could be clearly traced. If a number of plants showed evidence of their infection, any neighbouring field to the windward would be sure to suffer as soon as the wind was strong enough to carry the spores from the infected to the uninfected plants, provided certain atmospheric conditions were present, such as absence of sunlight with warmth and moisture. This seems to me to correspond precisely with the behaviour of influenza. In the following year or two eczema epizootica (foot-and-mouth disease) appeared very generally over large districts of the country. I studied this malady very carefully, and watched its effects upon some herds of cattle in which I was specially interested. The disease appeared among some animals in Beddington Park.

These animals had no personal communication with those I was watching, and were separated by the river Wandle and by a low hedge. There was no personal contact between the workmen on the two estates, but the disease showed itself in the animals to which I refer two or three days after its appearance in Beddington Park. There can be no doubt about the contagiousness of foot-and-mouth disease from animal to animal; and the instance I have mentioned, with one or two others of a similar kind brought to my notice by police reports, satisfied me that the disease could be promulgated by aerial diffusion as well as by personal contact. The same kind of evidence was produced before the Royal Commission upon Infectious Hospitals, of which I was a member, and proved conclusively that small-pox was capable of being aerially diffused for at least a distance of many feet. I commend these observations to the notice of the members of the Epidemiological Society, for I have myself no doubt that all this class of diseases which affect man, the animal and vegetable kingdom alike, follow similar laws, and it seems to me to be a waste of time to argue the question as to whether or not one is contagious and the other infectious.

I am, Sirs, yours faithfully,

Croydon, Nov. 16th, 1891. ALFRED CARPENTER.

To the Editors of THE LANCET.

SIRS,—I am glad to observe that there is a rapidly growing tendency among practitioners of human medicine to regard influenza as a communicable disease; for when it is regarded in this light, then steps will be taken to prevent its spread, and its malign influence will be greatly diminished. At times it is nearly as prevalent in horses as in human beings, and for more than a quarter of a century I have considered it, and dealt with it, as an infectious malady, though I do not at all believe in the inter-communicability of influenza so far as man and the horse are concerned, for there is no evidence sufficiently strong to warrant the supposition. In the second volume of my work on "Veterinary Sanitary Science and Police," published so long ago as 1875, I have devoted a section to the disease as it manifests itself in the equine species, and I have therein stated (p. 13) that "the malady spreads by virtue of its communicability; of this there is logical proof, though it has not been experimentally demonstrated"; while the sanitary measures I proposed for its limitation and suppression were based on that conviction. This conviction has been strongly fortified by my additional experience and observation. May I add that in the same work I have treated of tuberculosis in cattle, have looked upon it as an infectious malady, and have prescribed measures for extinguishing it, as well as safeguarding the public health. But this was in the pre-Kochian days, when such views did not receive attention. Koch's discovery of the bacillus of tuberculosis has not enabled me to add to those suppressive and precautionary measures.—I am, Sirs, yours obediently,

Nov. 18th, 1891. GEORGE FLEMING.

THE APPROACHING ELECTION OF DIRECT REPRESENTATIVES.

To the Editors of THE LANCET.

SIRS,—As the time for the issue of the voting papers is now rapidly approaching, we ask you to allow us to thank those who have been active in promoting our candidature and the many friends in all parts of the country who have so cordially promised to support us by their votes. It is peculiarly gratifying to us to learn that on all hands our action during the past five years has given satisfaction to those who did us the honour to elect us as their direct representatives, and we take the opportunity now afforded us thus publicly to acknowledge our gratitude and to assure our constituents that at all times, should they renew their confidence in us by re-electing us, we shall consider it our duty to watch over their interests with constant care and attention. As men who have spent long years in the practice of the profession, and whose duties have brought us into intimate connexion with every branch of it, we feel that the requirements of all sections of our fellow-practitioners are thoroughly known to us, and that we are in a position adequately to represent them.

We have but one request to make—that every member of the profession will record his vote, and thereby show the interest he feels and takes in the great principle of "direct representation." Whether those votes are cast in our favour or against us, we shall at all times remain

Your obedient servants,

C. G. WHEELHOUSE.
B. W. FOSTER.
J. G. GLOVER.

To the Editors of THE LANCET.

SIRS,—I am exceedingly sorry that Dr. Alderson and Mr. George Brown should have imagined that I referred to them in my letter on "Direct Representation" published last week. In the first place, I had written it before the announcement of their candidature; and secondly, I referred to no one person or persons in particular, but to a "type" of men, by whom I am sure both Dr. Alderson and Mr. Brown would, equally with myself, object to be represented on the Council. I should certainly have imagined that the first line of my letter would have been sufficient to have proved that it was written before any candidates had appeared other than the three present representatives. The moment I heard that Dr. Alderson and Mr. Brown had taken my letter as an attack upon them, I wrote to these gentlemen disclaiming any such intention, and they have courteously accepted my explanation.

I remain, Sirs, yours faithfully,

Nov. 13th, 1891. A. GEORGE BATEMAN.

To the Editors of THE LANCET.

SIRS,—In your issue of Saturday last, Mr. Wheelhouse refers to a private correspondence which has passed between us, and says that he should very much like me to publish it, but fears I will not care to do so. His fears notwithstanding, I enclose copy of the letters, and request the favour of publication in your next issue. Mr. Wheelhouse states that I expressed a wish that he and Sir B. W. Foster should *retire in favour of myself and Dr. Alderson.* It will be seen that I said nothing of the kind. I certainly do wish they had left the field clear for general practitioners. In that case, no doubt other candidates from the ranks of general practitioners would have come forward, and I probably should have been spared the worry and expense of this contest.—I am, Sirs, yours faithfully,

GEORGE BROWN, M.R.C.S. Eng. & L.S.A. Lond.,
Threadneedle-street, E.C., Nov. 11th, 1891. President of General Practitioners' Alliance.

[COPY.]

29, Threadneedle-street, E.C., Oct. 29th, 1891.

To C. G. Wheelhouse, Esq.

DEAR SIR,—You will have heard probably ere this that it is my intention to offer myself as a candidate for a seat on the General Medical Council. I am anxious that you should understand that I am influenced to oppose the re-election of yourself and Sir B. W. Foster solely by the feeling that it is the duty of general practitioners to enter a protest against our direct representatives being drawn from the ranks of consultants or those associated with the governing bodies of medical corporations or teaching institutions. The seats for direct representatives were given in response to a demand made on behalf of general practitioners, and I regret very much that you and Sir B. W. Foster should have taken advantage of the great influence you wielded through the British Medical Association to prevent those seats from being filled by general practitioners. Of course, I do not contest your right to offer yourself for re-election. I may, however, say that it would have been a graceful act on the part of Sir B. W. Foster and yourself to have left the field clear for general practitioners. Assuring you of my high esteem of your personal qualities and general approval of the work you have done since you have been a member of the Council,

I remain, yours faithfully,
(Signed) GEORGE BROWN.

[COPY.]

Cliff Point, Filey, Yorkshire, Oct. 30th, 1891.

DEAR MR. BROWN,—Accept my thanks for your letter received by this evening's mail. I had, of course, heard of your intention and of Dr. Alderson's to become candidates at the coming election, and I can, equally of course, have no objection to your doing so. There is only one point in your letter which needs any explanation—viz., your assumption that I am not a general practitioner, and that I am not in a position to represent general practitioners on the Council! If hard work, by day and by night, in medicine, surgery, and midwifery, for thirty years, in one of the largest practices in the fifth largest town in the kingdom, constitutes "general practice," I can at any rate, claim that; and I do not see that because, after such an experience as that, my fellow practitioners did me the honour to consider that my opinion—gained in such an experience as that—was worth asking in consultation, that makes me less of a general practitioner than I ever was. Anyway, I feel that if I do not know the needs and requirements of general practitioners no one can ever hope to do so; and, with this knowledge, I am content once more to seek to represent them in the Council. I have old pupils scattered over the length and breadth of the land who know me and my career better than you seem to do, and I am quite content to leave my cause in their hands. You have a perfect right to try to wrest my

sent from me if you can, and if you succeed you shall not hear a word of complaint from Yours truly, (Signed) C. G. WHEELHOUSE.

[COPY.]

29, Threadneedle-street, London, E.C.

DEAR MR. WHEELHOUSE,—I am much obliged to you for your letter of October 30th, and regret to find that you think I am doing you an injustice in describing you as a consultant. I hope you know me sufficiently well to be satisfied that I would not knowingly misdescribe you, but I still think I am correct in contesting your claim to rank as a general practitioner. No doubt you were formerly in general practice, and the same may be said by a large proportion of our West-end consultants, but they would hardly feel flattered if they were asked to come forward to represent general practitioners on the Medical Council. For many years you have held a high position among the provincial consulting surgeons, and have been identified with a large medical school and the Leeds Infirmary, of which institution I believe you are still consulting surgeon. I can only hope that in time the general practitioners will see that their interests can be best served on the Council by those who *are* in actual general practice, and not those who *have been*.

I am, yours faithfully,
(Signed) GEORGE BROWN.

To the Editors of THE LANCET.

SIRS,—May I venture through the columns of your valuable journal to draw the attention of holders of the new L.S.A. diploma to a matter of no little importance to them? As you have frequently urged, it is only just that after passing a very thorough and searching examination, and obtaining the new diploma of the Society, qualifying in all three subjects—the only one, in fact, registrable of itself,—the licentiate should have some more comprehensive letters than L.S.A. to place after his name, in proof to the general public that they are doubly qualified men in contradistinction to the old licentiate qualified in medicine only. The General Medical Council say they have no power in the matter, I believe; but they have allowed holders of the L.K.Q.C.P.I. to register as L.R.C.P.I. Why can they not register us as Licentiates in Medicine and Surgery? Dr. Alderson and Mr. George Brown have both pledged themselves, if elected, to urge the Council to procure a more satisfactory title for us, and it behoves every licentiate to do his best to secure the return of these gentlemen, and thus obtain for his diploma the suitable recognition which a sound London examination deserves.

I am, Sirs, yours faithfully,
Nov. 14th, 1891. L.S.A. (1890).

To the Editors of THE LANCET.

SIRS,—May I ask you kindly to insert the following in THE LANCET:—The following questions, signed by nine medical practitioners in this district have been sent to Sir Walter Foster, Mr. Wheelhouse, and Dr. Glover, with a letter asking that the replies might be yes or no. Sir Walter Foster, on behalf of his colleagues, sends the annexed answers.

I am, Sirs, yours truly,
Mossley, Nov. 27th, 1891. J. LAWTON ANDREW, M.D.

QUESTIONS.	REPLIES.
1. Will you oppose any Bill having for its object the legalisation of practice by midwives or placing such persons on the Register?	1. We will oppose any Bill which will place midwives on the same level with registered practitioners.
2. Will you urge that the Preliminary Examinations to medical study be equalised upon the highest scale?	2. Yes.
3. Will you urge the Council to increase the qualifying age to twenty-four years?	3. We have actively supported the extension of the curriculum to five years, and have thereby practically advanced the age for qualification to twenty-two years. We think any further advance demands our careful consideration, which we undertake to give.

LENGTHENING TENDONS IN DEFORMITIES OF THE HAND.

To the Editors of THE LANCET.

SIRS,—In my second Hunterian Lecture at the Royal College of Surgeons, delivered on June 10th last and published in THE LANCET of July 18th, I described a new method of lengthening tendons, and recorded a case of contraction of the fingers in which it had been successfully employed by me at St. Thomas's Hospital in October, 1889. A few weeks ago Professor Keen of Philadelphia, with whom I had had the pleasure of a correspondence on the subject of hand deformities, favoured me with a reprint of a paper read on March 4th last before the Philadelphia College of Physicians, relating to an identical operation undertaken by himself in November, 1890, at the suggestion of Dr. Weir Mitchell. The paper was entitled "A New Method of Tenotomy, by which the Tendons are lengthened to a definite extent, instead of by the present haphazard method." Professor Keen, of course, had then no reason to believe that his case was not the first of the kind; but after receiving a letter from me pointing out the date of my operation, he has with the greatest promptitude and courtesy sent me the following reply, which I beg you will do me the kindness to insert, in order to dispose of any question that might arise hereafter.

I am, Sirs, yours obediently,
Harley-street, W., Nov. 14th, 1891. WILLIAM ANDERSON.

[COPY OF LETTER.]

"1729, Chestnut-street, Philadelphia, Oct. 13th, 1891.

"MY DEAR MR. ANDERSON,—I am greatly pleased to receive your letter of Sept. 30th. I feel that I deserve very little credit myself, because the idea was purely original with my friend Dr. Mitchell, who suggested it to me, as I stated in my paper. Any credit, therefore, really belongs to him. At the same time I will very freely admit that priority both as to idea and performance belongs to you. I had overlooked the fact that your operation was done in 1889. If you will kindly write a little note to THE LANCET calling attention to the fact it will entirely meet with my approval. Very truly yours,

"W. W. KEEN."

"HYDATID DISEASE IN ITS CLINICAL ASPECTS."

To the Editors of THE LANCET.

SIRS,—In your issue of the 31st ult. I read a notice of a book by Dr. Graham bearing the above title. Thinking the volume would be an acquisition to the students' library here, I ordered it, naturally expecting that it would be to some extent interesting and instructive. Clinically this is so, but I was much astonished on a cursory perusal to find the following statements, and, although they are not in every case the words of the author, they are quoted by him without comment, and consequently it may be presumed he acquiesces in the views therein expressed.

Firstly, on page 17: "We also derive some parasites from animals that are used as food material. The common tapeworm and the trichina (measly pork) reach us in this way." Secondly, on page 21, there is a quotation from Leuckart to the effect that "the tænia saginata is associated with the ox almost throughout the world." Thirdly, on page 33, the author, quoting from a circular of the Local Board of Health of Victoria, says: "Dogs should never be fed with, or allowed the opportunity of eating, the offal of slaughter-houses, nor should pigs be kept there"; and in the same circular we have the following: "Fluke in sheep is another source of danger, and such mutton should be carefully avoided."

In reference to the first quotation, may I be allowed to say that I was not aware, nor do I now know, that there is any connexion between trichina and measly pork. In reference to the second, I take it for granted that Great Britain is a part, and an important part, of the world; it has not, however, as yet, been my lot to meet with an instance of the cysticercus of the T. saginata—perhaps Great Britain is excepted by the *almost*. In reference to the first part of the fourth quotation, I take it that all will agree in the prohibition recommended; but I fail to see in what way pigs could be either endangered, or could become the source of danger, by being fed in a slaughter-house, supposing such a thing were conceivable in any country where sanitary laws are appreciated. But in the closing paragraph of that quotation we have a remark of the most astounding nature. The author of that statement may know more of the life-history of the fluke than I do, certainly; but, so far as I am acquainted with it, I cannot associate the devouring of the muscles of fluked sheep by man with any danger to his constitution; and if the advice therein given were followed, not hundreds, but thousands of wholesome, and more or less valuable, carcases of mutton would be consigned to destruction every year. I am, Sirs, yours faithfully,
Edinburgh, Nov. 12th, 1891. THOMAS WALLEY.

TREATMENT OF ENDOMETRITIS.

To the Editors of THE LANCET.

SIRS,—I have just read a paper in THE LANCET of Nov. 7th on Endometritis, by Dr. R. Cory, in which opinions are enunciated and treatment recommended which

I fear can hardly be considered as either novel or generally serviceable. Dr. Cory's views on this subject appear to me from a practical point of view somewhat below the level of modern gynæcological teaching, at least as far as that of the Dublin school is concerned; and in this respect they might seem not a little strange to anyone believing in the vaunted superior knowledge of the modern London specialist (an opinion in which I for one do not acquiesce). The medical treatment recommended by Dr. Cory—viz., "twenty grains of bicarbonate of soda and twelve grains of citric acid in an ounce and a half of water three times a day"—appears to me incompatible, but certainly has one advantage—viz., that it can do no possible harm. But how any good can be thus effected in the treatment of a disease like endometritis I certainly fail to see. The local application of iodised phenol which is now advocated by Dr. Cory is unquestionably antiquated, and has been adopted (though, as I think, in a more effective way) for many years past by myself and other Dublin gynæcologists. Nor do I understand how this or other endo-uterine application can be of any practical value in cases of endometritis until the cervical canal is previously dilated and the diseased endometrium removed by the curette, as well as the viscid mucus found in every instance, and which, if allowed to remain, must neutralise the effect of any attempted local medication. This most important point, on which the success or failure of our topical treatment mainly depends, is not even alluded to in Dr. Cory's paper.

I am, Sirs, yours truly,

Dublin, Nov. 10th, 1891. THOS. MORE MADDEN.

To the Editors of THE LANCET.

SIRS,—The treatment of endometritis described by Dr. Cory in THE LANCET of Nov. 7th has been used for years past by the Dublin gynæcologists, and I think I can get many of them to join with me in differing from Dr. Cory in his statement that "the application of iodised phenol is the most efficacious means of curing this disorder." This treatment was first suggested by Dr. Battey of Georgia, U.S.A., and I for one have found it fail, even when applied in a much more lasting way than merely dipping an armed probe in the solution on passing the same into the uterus. I leave the wadding saturated with the iodised phenol in the uterus till expelled (as it is sure to be sooner or later by uterine contraction); and it is now some years since I published the description of an instrument designed for this purpose. This treatment is quite sufficient when done two or three times in ordinary cases, but fails utterly in those of a chronic nature; and I have of late treated such with marked success by dilatation, curetting, and drainage by means of my spiral wire stems, which can be worn with impunity while the patient is up and about. The subsequent application of boric acid by filling the cervical canal with the powder has also given me good results. Dr. Cory's statement that "two applications of iodised phenol as a rule are sufficient" does not agree with my experience, and I feel sure other gynæcologists will bear me out.

I am, Sirs, yours truly,

Dublin, Nov. 15th, 1891. ALEXANDER DUKE.

A MEMORIAL TO THE LATE DR. WOOLDRIDGE.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you would allow me space in your columns to invite all old Guy's men to subscribe to the memorial to our late assistant physician, Dr. Wooldridge. Only a few weeks ago an important mode of treatment was attributed to him in your columns by Mr. Arbuthnot Lane, and his researches on the coagulation of the blood have been quoted throughout the scientific world. The subscription list has been limited to Guy's men, past and present; and it entirely depends upon the amount received as to what form the memorial will take. Subscriptions may be sent to me addressed to Guy's Hospital, and will be acknowledged in the columns of the *Guy's Hospital Gazette*.—I am, Sirs, yours truly,

Guy's Hospital, Nov. 17th, 1891. GUY MACKESON.

OPEN SPACES.—The Greenwich Board of Works has voted £7000 towards the purchase of the Hilly Fields, Brockley, as an open space.

THE HOUSING OF THE AGRICULTURAL LABOURERS IN WEST SUFFOLK.

(FROM A CORRESPONDENT.)

THE result of the second inquiry ordered by the West Suffolk County Council with reference to the parish of Ixworth is embodied in a report made by Colonel Pocklington at the meeting of the Council held on the 2nd inst. Colonel Pocklington has arrived at conclusions directly opposed to those of Lord Francis Hervey, who held the first inquiry, and the "*fiasco* is now complete." Colonel Pocklington is of opinion "that the Thingoe rural sanitary authority has not proved its case, and if it put into force the powers it already possesses under the Public Health Act the parish of Ixworth is both able and willing to supply all the accommodation necessary without calling into play the extraneous processes conferred by the Housing of the Working Classes Act."

It is deeply to be regretted that the first inquiry held under this Act should have terminated in this manner. Other rural sanitary authorities who have been watching the march of events with the deepest interest, and who might have followed the example of the Thingoe Union had their application been successful, will now be deterred from taking any such steps. It does not appear, however, that the unfortunate issue is due to any inadequacy of the Act, but rather to the manner in which the Thingoe sanitary authority conducted its case. Lord Francis Hervey said at the meeting above referred to that "when the inquiry was first held he was placed in a position of great difficulty by the absence of testimony which might have been supplied him in support of the application by the Thingoe Union." Lord Francis Hervey, however, had taken the trouble before the inquiry was held to inspect the cottages in the village, and from the results of his own observations he asserted that "twenty houses ought to be closed and demolished," and that "the small expedients of patching and repairs were perfectly inadequate." Colonel Pocklington admits that two great blunders have been committed. "The first was made by the sanitary authority in applying for a second inquiry when they had got so far as they could see what they wanted. The second was made by the Council in acceding to the application."

Both reports are to be printed by the Council, and doubtless a study of them will prevent other sanitary authorities and other County Councils committing the blunders which have placed the Thingoe guardians and the West Suffolk County Council in such a painful yet ridiculous position. It is to be regretted that the county had not a medical officer of health, whose advice in such a matter would have been simply invaluable at the inquiries, and would probably have prevented the *fiasco* we have recorded.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Mayor at the Infirmary for Children.

FOLLOWING the example of his predecessors for some years past, the newly elected Mayor (Mr. Jas. de Bels Adam) drove from St. Peter's Cathedral Church to the Infirmary for Children, where he was received by the chairman (Colonel M. Belcher), members of the honorary and resident medical staff, and visitors. The Mayor and Mayoress went through the wards, and on leaving were heartily cheered by the little inmates, who looked very smart in their little red jackets.

Two Deaths from Preventable Causes.

Within the last few days two deaths have occurred, one from the breaking of a paraffin lamp, the other from the careless handling of firearms—both perfectly preventable accidents. The dangers of paraffin lamps have been so frequently shown within the last few years that it is a perfect marvel how people can continue to use imperfect samples of them. And so also with regard to the incautious use of revolvers and other firearms. The deaths which have been caused in this way in Liverpool and its

neighbourhood within the last few days have been deplorable. It would really seem as if legislation would have to be adopted to prevent such lamentable fatalities.

The Medical Profession and Life Assurance.

The leading article and Supplement which appeared in THE LANCET of last week, preceded by those of the corresponding issue of last year, will tend to promote the extension of life assurance not only among members of the profession, but also among their lay brethren. The saving of commission is a veritable *argumentum ad hominem*, which will appeal powerfully to all men of business. However incredible it may appear, it is stated confidently by those who may claim to speak with authority that the number of assurers proposing who apply voluntarily to life assurance offices, or, to use the colloquial phrase, "do business across the counter," is so small as not to amount to more than 3 per cent. of the whole number. In other words, all the offices which employ agents are indebted to these very useful gentlemen for 97 per cent. of their business. The advantage of being one's own agent, and so saving the commission, is one which need not be limited to solicitors or members of the medical profession. As the advantages of life assurance become more generally diffused the agent will become less requisite; at the same time, a distinction should be drawn between an agent and a local resident secretary. There have been several instances here lately of the families of deceased medical practitioners being left in very straitened circumstances because the breadwinners were not insured—sad examples, which ought to convey their warnings to those professional brethren who have not yet availed themselves of this means of providing for those who are dependent upon them.

Squalor and Misery.

An inquest was held by the city coroner to-day upon the body of a woman. The evidence disclosed the shocking state of squalor and filth in which all the family had been living. The deceased was found dead and cold on Saturday morning last at 8 o'clock, Mr. Jolly's opinion being that she had been dead some hours. There were several wounds on the head, a fracture of the skull with protrusion of the brain, and bruises. The wounds had evidently been caused by a small hatchet used for cutting wood. The jury found a verdict of wilful murder against the husband, who was committed for trial.

A Year's Accidents in Liverpool.

The yearly report of the head constable gives the following interesting details of the accidents which happened within the city during the year ending Sept. 29th, 1891. Out of a total of 2159, 410 were of those run over by carts, cars, &c.; 374 were injured on board vessels in the docks; 371 fell into docks, canal, &c.; 92 fell from buildings; 41 were burned; 24 were injured in dock works; and 667 from causes not stated. Out of a total of 1600 for the police force, 676 hold the certificate of the St. John Ambulance Association of qualification to render first-aid in cases of sickness or accident.

A Year's Inquests in Liverpool.

During the same period the city coroner held inquests on the bodies of 507 males and 292 females, equal to 799 in all. In addition to these, he inquired into 897 other cases of death without holding inquests, thus making a total of 1696 cases of deaths investigated by the coroner during the year. Of the inquests, 165 were on infants of one year and under, 68 on those above one year and under seven, and 32 on those above seven and under sixteen. These figures show markedly the precariousness of life in young children. There were 144 children suffocated while in bed with their parents, 264 were cases of accidental death, 30 were found drowned, 105 died from excessive drinking, 39 were cases of suicide, and 91 deaths were from natural causes.

Nov. 17th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Recurrence of Epidemic Influenza in the North of England.

WE are now apparently in the midst of a wave of epidemic influenza. It has broken out in several parts of Durham County. At Wolsingham over eighty cases are reported; also at Waterhouses, near the city of Durham, some of the schools have been closed in consequence of the illness of the teachers. Numbers of workmen are also suffering. At Tow Law it is also reported to be rife. Several cases have been observed at Gateshead; while at Newcastle it is also severe; some of our medical men are laid up with it. As regards the mode of invasion of the present epidemic, it differs somewhat from the last. It commences with inflammation of the fauces, which seldom goes on to abscess, and cough and bronchial irritation succeed, but are not followed by pneumonia. Orbital pain is generally present, and muscular pains in the limbs. For all these symptoms most relief follows the administration of diaphoretics combined with salicylate of soda.

Darlington: Death in the Teapot.

An inquest was held last week in Darlington on the body of a woman aged fifty-five. It was shown that she had been ailing for some time, but died suddenly after receiving some tea from her son. Mr. Fraser, surgeon, her medical attendant, said he had known deceased for twenty years, and she was an inveterate tea-drinker. She lived on tea and bread—and little bread, too. "She had tea almost every ten minutes." She was in a destitute condition, and he thought that the charitable agencies had not performed their duty in allowing the woman to exist so long in such a destitute condition. A verdict was returned that death resulted from syncope.

The late Dr. Broadbent of Bamburgh.

A meeting was held last week to close the fund in connexion with the Broadbent testimonial. It was stated that after placing a monumental shield in the parish church, there still remained the handsome sum of £200 to hand over to Miss Broadbent as a token of the deep respect in which her late father was held by every class; and that whilst the rich in many cases had helped with a liberal hand the widow, poor men had thrown in their mite most cheerfully, and thus promoted the successful issue of this very well-deserved testimonial. A hearty vote of thanks was accorded to Mr. Burman, surgeon, for his great kindness in writing and publishing a short biographical sketch of the late Dr. Broadbent, which had been eagerly bought up, and enabled Mr. Burman to remit a nice sum towards the fund.

The coming Election to the General Medical Council.

The profession in the northern counties is much surprised that there should be any opposition to the re-election of the present excellent direct representatives to the General Medical Council. On all hands I hear the determination expressed to give them a solid vote, not only as showing confidence in them for the future, but as a mark of approbation for their valuable services in the past.

Sunderland.

Mr. A. E. Harris, the medical officer of health for Sunderland, has just delivered a popular lecture on "Dirt and Disease," which has been well attended and received. It is also very opportune to have sanitary matters brought home, as it were, to the people of Sunderland, seeing that the Wearside borough is attaining an unenviable notoriety from its late high death-rate. I see in the Sunderland daily papers an announcement of the completion of new slipper baths by the corporation for ladies and gentlemen, but it is to be hoped that they are also intended for men and women of the working classes. Water is not dear in Sunderland, and the use of some baths is to be had there for a nominal sum. Still, the Sunderland medical officer of health, in his lecture, said that he hoped sincerely that in these days of free education and other advantages free baths for the people would not be forgotten, as it was impossible for the people, or nearly so, to obtain these baths at home.

North Ormsby Cottage Hospital.

It is announced that the Countess of Falkland has consented to open the new wing—built by the workmen—of this hospital early in January.

I am glad to hear that Dr. Jeaffreson, who has been for some months suffering from illness, has now quite recovered, and has resumed his post at the Newcastle Eye Infirmary.

The treasurer of the Gateshead Sick Children's Hospital has received from an anonymous donor £300 for the institution.

Newcastle-on-Tyne, Nov. 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Assessorship of Glasgow University.

DR. MCVAIL and the Rev. Mr. King have been elected as Assessors of Glasgow University. This result will afford gratification to the reforming party.

Influenza and Scarlet Fever in Aberdeen.

The death-rate from all causes last month was 19·25 per 1000 per annum, being 2·64 higher than it was the preceding month. The high total death-rate was mainly due to an unusually heavy mortality at the "infant period." Influenza has appeared again for a third time since its introduction in 1889, and this may partly account for the high mortality from respiratory diseases. The epidemic of scarlet fever has increased very rapidly, 265 cases having been reported, as against 115 in the previous month. This is by far the largest number of cases of this disease recorded in any one month since notification began in 1881. The average mortality is not, however, high. A map of the city shows that most of the cases are located within a comparatively small area.

Aberdeen Health Returns.

The following is the return of cases of zymotic diseases for the week ending Saturday, Nov. 14th:—Measles, 1; scarlet fever, 25; enteric fever, 3; typhus fever, 1; whooping-cough, 18; erysipelas, 4; diphtheria, 1; total cases, 53, being a decrease of 27 on the whole as compared with the previous week, and of 20 in the cases of scarlet fever.

Glasgow Maternity Hospital.

Dr. Murdoch Cameron performed his fifteenth Cæsarean section on Monday, Nov. 9th. The conjugate diameter measured 2¼ in. Mother and child (female) are both doing well. The operation occupied but twenty-five minutes.

A public dinner is to be given to Dr. Murdoch Brown, in the Waterloo Hotel, Edinburgh, on Friday, Nov. 27th, on the occasion of his retirement from the post of clinical medicine tutor in the University of Edinburgh. Advantage will also be taken of this opportunity to make a presentation to Dr. Brown in recognition of his past services.

Nov. 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Academy of Medicine.

THE opening meeting of the Surgical Section was held on the 13th inst. The president, Mr. H. Gray Croly, gave an address devoted to the subject of Sarcoma, and detailed various cases which had come under his notice, and which had implicated the femur, testes, shoulder, jaw, tonsil, &c., respectively. He laid stress upon the malignant nature of sarcoma attacking the bone, and mentioned examples of sarcoma having been mistaken for abscess, aneurysm, and even bubo. He stated that there was only one case of sarcoma of the tongue on record, which had occurred in the practice of a New York surgeon. Mr. Croly's address was most interesting, and was illustrated with photographs, drawings, and casts, and in addition twelve microscopical sections of the various varieties of sarcoma prepared by Dr. Graves. Mr. Tobin read a paper on Prostatectomy, which elicited a very interesting discussion; and at its termination Mr. Croly entertained a large number of guests at an excellent supper in the College. The toasts included "The Health of the President of the Surgical Section" (Mr. Croly), which was proposed by Sir W. Stokes, and "The Royal Academy of Medicine," which latter was responded to by Dr. Kidd, the newly-elected President of the Academy.

Royal College of Surgeons.

The Committee of Management of the Conjoint Scheme, Colleges of Physicians and Surgeons, have arranged to hold a preliminary examination on Dec. 16th and 17th. Candidates passing may, by becoming pupils of registered medical practitioners, register themselves as medical students before the close of the year, and thus come under the four years' system and escape the five years' curriculum, which comes into operation on Jan. 1st next. Of course they cannot get credit for any lectures this winter session.

The late Dr. Evelyn Little.

Last week the remains of this gentleman were interred in Mount Jerome Cemetery, the funeral being largely attended. A procession of several hundred students of the University of Dublin Medical School, accompanied by Professors Bennett and Cunningham, walked after the hearse from the residence of the deceased to the place of interment. Among the many wreaths was one measuring over five feet, in the form of a cross, composed of handsome flowers, sent by the students of the School of Physic.

Dublin Main Drainage.

The Main Drainage Committee have presented a report to the corporation recommending that a scheme of main drainage be undertaken at a cost of £250,000, and they are of opinion that the powers of the Public Health Act will probably be found sufficient, and that it will not be necessary to increase the expense by a special Act. Mr. Chatterton, consulting engineer, recommends intercepting sewers, one along the northern quays and another on the southern quays, the sewage to be carried under the river, then taken down in a single sewer to the Pigeon House, and conducted by precipitation tanks to be constructed for the purpose. The committee have recommended this scheme, which it is believed will be adopted by the corporation, it being comparatively inexpensive and apparently a suitable arrangement. The carrying out of the proposed scheme and its maintenance will add about 8*d.* in the pound to the valuation.

City of Dublin Hospital.

Mr. Vernon, agent to Lord Pembroke, has intimated to the directors of this institution that his lordship will give £6000 towards the sum required to make the necessary alterations in the hospital, provided the additional amount required is contributed by the public.

British Medical Temperance Association (Irish Branch).

The annual meeting was held last week at the College of Surgeons. The number of members is forty, and of associates forty-seven, the same numbers as for the last two years. The following resolution was adopted: "That such an Association as this, whose objects are to advance the practice of total abstinence in and through the medical profession, and to promote investigation as to the action of alcohol in health and disease, which requires no pledge nor interference with the liberty of members to prescribe alcohol, deserves the support of the medical profession."

Sir P. Dun's Hospital.

Owing to the land agitation, the receipts from Sir P. Dun's estate have sensibly diminished, and last year the amount received only reached £200, as compared with £1200, the average amount of former years. All available stock has been sold, while the bank account has been largely overdrawn, and heavy expenditure has been incurred by the necessity for providing complete isolation of cases of infectious disease from the rest of the hospital, in accordance with the requirements of the corporation. Under these circumstances the governors have issued a special appeal to meet the debt incurred by new buildings, drainage, and other necessary improvements.

The Royal Hospital, Belfast.

The annual meeting of this charity was held on Nov. 16th. I learn from the report that during the past year (ending Aug. 31st) 2121 intern patients were treated; these, with 143 remaining in the wards from the previous year, make a total for the year of 2264 intern cases, and of these 981 were medical and 1283 surgical. There were 304 surgical operations performed, with a mortality of 11; this represents a death-rate after operation of 3·5. In the extern department, 20,154 new cases were treated, and of these 4317 were medical and 15,837 were surgical. The internal and external cases together number 22,418. Clinical instruction has been given in the wards to 145 students during the winter, and to 98 during the summer, session. The total receipts for the year from all sources have been £9163 14*s.* 8*d.*; the expenditure £8835 9*s.* 1*d*; but as a donation of £1000 cannot be used for current expenses, the receipts are reduced by £1000, and thus show a deficit of £671 14*s.* 5*d.*, which, added to the debt of last year, make the total indebtedness £2278 18*s.* 8*d.* The working classes have, through their own committee, raised £2083 15*s.* 5*d.* during the past year. The President of Queen's College (Rev. Dr. Hamilton), in moving a vote of thanks to the

medical and surgical staff, spoke of their services in most complimentary terms.

The Ulster Hospital for Women and Children.

As I reported some time ago, this excellent institution, whose work during the past twelve years has been done in Fisherwick-place, has changed its abode to Templemore-avenue, Ballymacanelt, where on Nov. 14th the new premises were opened by Mr. Blakiston-Houston, V.L. They are comfortable and commodious in every way, and the financial responsibility which the committee have undertaken in acquiring these new premises amounts to £2200. Of this sum more than half has already been generously contributed. The new abode of the hospital is in the centre of a large and growing working-class population.

Health Lectures.

The first of the series of "health" lectures, under the auspices of the Belfast Society for the Extension of University Teaching, was given on Nov. 16th by Professor Redfern, the subject being "The Care of the Body." The President of the College, to whom the idea of giving these health lectures is really due, occupied the chair, and there was a very large and appreciative audience. Professor Letts is to give the next lecture, at Queen's College, on "The Air we Breathe."

Influenza.

The present epidemic in Belfast appears to be widespread, especially amongst the upper classes, and although the mortality is slight very many are suffering. The pulmonary tract seems to be more affected than in previous epidemics.

Nov. 17th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Nitrate of Silver in Gastric Catarrh.

M. FORLANINI records several cases of chronic gastric catarrh which were treated successfully by washing out the stomach with a weak solution of nitrate of silver. He first introduces a 2 per cent. solution of bicarbonate of soda in sufficient quantity to come in contact with the entire gastric coat, and having evacuated this he next throws in a half litre, about seventeen fluid ounces, of a $\frac{1}{1000}$ solution of silver nitrate. He next withdraws a part of this and injects air so as to dilate the organ and bring the whole of its mucous surface in contact with the solution. As soon as the latter is observed to become milky in appearance it is completely withdrawn and another half litre of a fresh solution introduced. Finally, the stomach is washed out with hot water to which is added some chloride of sodium. M. Forlanini finds that the silver nitrate stimulates the mucous membrane, gives tone to the muscular walls, and diminishes the gastric distress, a marked diminution being observed in the production of mucus. This method of treatment is especially applicable to cases of chronic catarrh with dilatation.

Salts of Strontium in Cases of Albuminuria.

At a recent meeting of the Société de Thérapeutique M. Dujardin-Beaumetz recorded some observations on the action of the salts of strontium in albuminuria. Administered under the form of lactate of strontium he found this salt brought about a very marked diminution in the quantity of albumen. In some cases the amount of albumen was reduced by one-half or more. As to the mode of action of the lactate of strontium in these cases, he was of opinion that it was not a specific one on the albuminuria, but rather that it modified very favourably the digestive functions in cases of Bright's disease. As to dose, he gave up to ninety grains a day, in divided doses. MM. Bucquoy and Paul had also exhibited lactate of strontium in similar cases, and their observations coincided precisely with those of M. Beaumetz.

Gangrene following Injections of Antipyrin.

At the last meeting of the Academy of Medicine, M. Verneuil read notes of two cases in which gangrene of the foot followed the hypodermic use of a solution of antipyrin. The injections were made to relieve pain following injury to the sciatic nerve. The gangrene made its appearance very shortly after the injection, and M. Verneuil had no doubt that, while the condition of the nerves had something to do with the untoward result, the antipyrin was chiefly in fault, and the fact established the advisability, before having recourse to hypodermic injections of this substance, of taking into consideration the anatomical and functional condition of the nerves of the region involved.

Dangers of Cocaine.

M. Ficano records the case of a patient, the subject of an acute otitis, attended with intolerable noises in his ear and much suffering, on to whose auditory canal he let fall five drops of a 5 per cent. solution of cocaine. A few minutes afterwards the patient was seized with giddiness, nausea, followed by vomiting and cramps, which persisted for several hours. M. Ficano does not hesitate to incriminate the cocaine, notwithstanding the feeble strength of the solution and dose, and submits that it is one proof more that cocaine is a substance that must be handled with caution even in otology.

Application of Zoology to Legal Medicine.

An interesting case of the applicability of zoological facts to legal medicine is related by M. Fallot of Marseilles. In the month of June last some fishermen discovered, floating off the harbour of Marseilles, a corpse in an advanced state of decomposition. The tissues presented the transformation known as saponification. In certain places the skin had the mammillated appearance described by Devergie, while that of the skull and face was detached and floating. The articulations of the elbows, wrists, and phalanges were more or less laid open, and the question was, How long was the body in the water? Devergie's tables did not go beyond four months and a half. In the case under consideration the solution of the problem was furnished by the following. The débris of the clothing, which yet covered the body, was covered with barnacles, and it is known that these crustacea fix themselves to floating objects during the months of April and May. As it was further noted that the body was covered with barnacles which varied sufficiently in size to be distinguished as belonging to two successive generations, it was concluded that the body had been in the water for at least thirteen months.

Medical Legislation and English Practitioners.

The new Medical Bill, which has already passed the Lower House, is now before a committee of the Upper House appointed by the Senate to consider certain of its provisions before being read and passed into law. The committee has finally decided on two points which most interest English medical men practising or intending to practise in France, and they may be considered as good as law. The first point concerns the diploma of *officier de santé*, this being hitherto the qualification taken by most of our countrymen, who, of course, practising as British physicians, desired only the lower French qualification for the mere purpose of registering their position. The committee, before deciding on the question of its maintenance or suppression, referred the matter to the departmental authorities as being those most interested. Of these sixty voted for and twenty against, and as a result the Senatorial Committee has suppressed the *officiat*. This, however, will not be retrospective, but for the future English medical men wishing to practise in this country will be affected by, and come under the operation of, the second point voted by the committee, which is as follows: "Henceforth no one will be allowed to practise medicine on French territory unless he have obtained the degree of Doctor in Medicine granted by the French Government as soon as he shall have passed the prescribed examinations before a Medical Faculty of the State."

Paris, Nov. 18th.

Obituary.

ARTHUR EGERTON HENSLEY, M.B.LOND.

WE briefly announced last week the death of Arthur Egerton Hensley, M.B., on Monday, Nov. 9th, at Newton Abbot. On Friday, Oct. 30th, he attended a child, and found the patient suffering from diphtheria. He gave the case the closest and most conscientious attention, and was hardly ever absent from the bedside of the little sufferer. The child died on Nov. 2nd, and Dr. Hensley began to show symptoms of the disease the next day. His case was not thought particularly serious at first; but on Friday, Nov. 6th, his temperature began to rise, and, pneumonia setting in, death ensued on Monday, Nov. 9th. He fell a

victim to the faithful and noble discharge of his duty, and carries with him the highest respect of all who witnessed his devotion.

JOHN BOWER, M.D., L.R.C.S. ED., R.N.

THE death of Dr. Bower is truly a calamity for all who had the great privilege of his friendship. No one who came within the influence of his kindly, sunny, sympathetic, and helpful character will ever think of him without the liveliest sense of gratitude that such men live to inspire their fellows to their best and highest efforts. His service in the Royal Navy took him to many lands and distant shores, and he finally retired with the rank of fleet-surgeon after a full and laborious professional life. On settling down in his native town, with a record of unflinching devotion to duty, Dr. Bower gave the evening of his days to good works. Much of his effort was given to the Fechney School of Industry, of which he was the honorary secretary; and grateful pupils have gone thence to all the ends of the earth, none of them to hear of his death without the keenest sense of all that he had done for them. Dr. Bower was also a director of the Royal Infirmary, Murray's Asylum, and many other charitable institutions. But much of his kindness was shown in ways which can never become public, and which he would never have wished to hear mentioned.

"His daily prayer, far better understood
In acts than words, was simply doing good;
So calm, so constant was his rectitude,
That by his loss alone we know its worth,
And feel how true a man has walked with us on earth."

T. A. BARKER, M.D. CAMB., F.R.C.P. LOND.

DR. BARKER, whose death, at the age of eighty-four, we announced on Oct. 24th, had retired from practice as a physician for many years. He was well known from 1839 to 1868 as one of the physicians to St. Thomas's Hospital. He was educated in Edinburgh, where he obtained the degree of M.D. in 1829. He afterwards studied in Paris and Dublin. In 1840 he acquired the Cambridge degree of M.D., having resided at Downing College. His first London appointment was to the Public Dispensary, Clare Market. He became assistant physician to St. Thomas's Hospital in 1839, and physician in the following year. In 1846 the Fellowship of the Royal College of Physicians was conferred upon him. Three years later he was made a Censor of that College, and was reappointed on four subsequent occasions. He was elected to the "Lumleian Lectureship" at the Royal College of Physicians in 1860, again in 1861, and again in 1869. Dr. Barker continued in office as physician to St. Thomas's Hospital for twenty-eight years, and during part of that time lectured on the Principles and Practice of Medicine, and held the special chair of Clinical Medicine and the deanship of the school. In 1868 he retired from the active duties of his hospital life, when the governors of the hospital presented him with the Consulting Physicianship and with a Governorship. As an author, Dr. Barker's work was limited to contributions of clinical interest to the Medical and Chirurgical Society, and to the medical journals. For several years before his long and fatal illness Dr. Barker was a member of the committee of the Society for the Promotion of Christian Knowledge, and assisted in the work of their Literature Committee. He also conducted a Bible class for young men every Sunday evening, and would read to the old men in St. Marylebone Workhouse. His old friends and colleagues will always remember him as a type of the dignified, able, clear-headed, duty-loving teacher and physician, and as a faithful friend. He was the second son of — Barker, Esq., of Ashford Hall, Derbyshire, and a brother of the late well-known police magistrate. He married Miss Clowes, a daughter of the Vicar of Knutsford, Cheshire. He was buried in the family vault at Bakewell, Derbyshire. The funeral was attended by Dr. J. S. Bristowe, Dr. W. Ord, Mr. Croft, Mr. E. M. Wrench, and others.

PETER STANDEN, M.B., C.M.

MANY will have read with much regret the announcement of the death of Dr. Peter Standen, late of Sutton-in-Ashfield, at the early age of thirty-six. The deceased was born at Derby and educated in the Derby Grammar School. Previously to commencing his University curriculum he was apprenticed to Dr. Wilson of Claycross. He entered the University of Edinburgh in 1876, where his career as a medical student soon became distinguished, for in 1878 he took the medal for Practical Chemistry in addition to a number of first-class certificates in other subjects. In 1882 he was successful in obtaining Dr. Littlejohn's prize for the best essay on Public Abattoirs. He graduated M.B., C.M. in the same year, and on obtaining his degree commenced general practice at once, joining Mr. Stamford of Tibshelf in partnership, and residing at Stanton Hill, where he took charge of the Stanton Ironworks Company's collieries. From his gentlemanly manner and devotion to work, he soon gained for himself an extensive and lucrative practice. In 1882 he obtained the appointment of medical officer of health to the rural sanitary district of the Mansfield Union, which he was well capable of filling. Leaving Stanton Hill in March, 1888, Dr. Standen commenced practice on his own account at Sutton-in-Ashfield, where he resided up to the time of his death. About two years ago the first signs of the mitral disease were discovered which led to the termination of an active and useful life.

THE SERVICES.

IT is pretty confidently expected that Surgeon-Colonel A. F. Bradshaw, Medical Staff, Chief Medical Officer at Rawul Pindi, will be the new Principal Medical Officer in India, in succession to Surgeon-Major-General Thomson, who retires in March next.

ARMY MEDICAL STAFF.—Surgeon-Lieutenant-Colonel Robert Vacy Ash, M.B., retires on retired pay (dated Nov. 18th, 1891); Surgeon-Major (ranking as Major) Wm. Hamilton Brigge, late Medical Staff, whose retirement, receiving a gratuity, was notified in the *Gazette* of Nov. 7th, 1890, is restored to the establishment as a Surgeon-Major, taking precedence next below Surgeon-Major W. L. Chester (dated Nov. 18th, 1891); Surgeon-Major Mapleton, in medical charge at Hounslow, has been ordered to embark at Portsmouth on the 24th inst, in Her Majesty's ship *Malabar*, on appointment to the Medical Staff in India.

NAVAL MEDICAL SERVICE.—The undermentioned qualified candidates have been appointed Surgeons in Her Majesty's Fleet:—Alfred William Sturdee, Edward Miall Dobinson, Alexander George William Bowen, B.A., M.B., Richard Llewelyn Price, M.B., Ernest Albert Shaw, B.A., M.B., Edward Cooper, Charles Samuel Facey, M.B., Chas. Simmons Bennetts, B.A., M.B., George Ley, William Ernest Marshall, Montague Louis Bouchier Rodd, Herbert Lloyd Penny, Arthur Edward Kelsey, B.A., M.B., and Charles James Fyfe, M.B. (dated Nov. 11th, 1891).

Medical News.

UNIVERSITY OF LONDON.—The following candidates passed the M.B. Examination in October last:—

First Division.

Andriezen, W. Lloyd, Univ. Coll.
Blacker, Geo. Francis, Univ. Coll.
Blomfield, E. Eldridge, London Hospital.
Buchanan, George S., B.Sc., St. Barthol.
Caley, Henry Albert, St. Mary's.
Chidell, Claude C., Univ. Coll.
Cooke, Geo. H., Manch. Royal Infirmary and Owens Coll.
Cowen, T. Philip, St. Thomas's.
Curtis, Henry Jones, Univ. Coll.
Davies, Thos. Benjamin Philip, Guy's.
Drew, Douglas, Univ. Coll.
Giles, Arthur E., B.Sc., Owens Coll. and Manch. Roy. Infirm.
Given, J. Cecil Mackmurdo, Royal Infirm. Sch. Med., Liverpool.
Griffith, Augustine, Univ. Coll.
Hodgson, Harold, Guy's.
Hogarth, Bertram W., Guy's.
Horrocks, Herbert, B.Sc., Owens Coll. and Manch. Roy. Infirm.
Krohn, Ronald E. S., Univ. Coll.
Manknell, A., Yorkshire Coll.
Pace, Elizabeth Margaret, Lond. Sch. Med. and Roy. Free Hosp.
Paul, John Ernest, Univ. Coll.
Rake, Alfred Theodore, Guy's.
Richards, Harold M., Univ. Coll.
Rider, Alonzo Geo., Univ. Coll.
Simmons, Gerald A., St. Mary's.
Smith, Ernest N., Univ. Coll.
Stevens, Cecil Robt., St. Barthol.
Stevens, W. Mitchell, Univ. Coll.
Sturge, Mary Darby, Lond. Sch. Med. for Women.
Umney, Wm. F., St. Thomas's.
Ware, Ernest E., St. Thomas's.
Wohlmann, Arthur S., Guy's.
Wood, Emily Elizabeth, Lond. Sch. Med. and Roy. Free Hosp.
Young, John, Guy's.

Second Division.

Althorp, C. F. M., Yorkshire Coll.
Bennett, Vivian B., Univ. Coll., Liverpool.
Biddlecombe, E. H., St. Barthol.
Codd, J. A., B.Sc., Yorkshire Coll.
Dukes, T. A., B.Sc., St. Thomas's.
Eccles, Herbert A., St. Barthol.
Kennedy, William Willoughby, St. Barthol.
Nicklin, Montford, Queen's Coll. and Gen. Hosp., Birmingham.
Parker, Geo. Dines, St. Barthol.
Preston, Chas. H., Owens Coll. and Manch. Roy. Infirm.
Pritchard, Eric Law, King's Coll.
Salter, Charles Edward, Guy's.
Sarjant, Frank Percy, Guy's.
Tebb, Albert Edward, Guy's.
Thomas, Abraham, Guy's.
Williams, Ethel Mary N., London Sch. of Med. for Women.
Wilson, John G., London Hosp.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The list of gentlemen whose names were given in our issue of Nov. 7th as having obtained the L.R.C.P. Lond., having passed the necessary examinations, and having conformed to the by-laws and regulations, were at the ordinary meeting of the Council on the 12th inst., admitted Members of the Royal College of Surgeons. The following gentlemen were also admitted to the Membership:—

Davies, John Edward, M.B. Edin., Liverpool.
Huxtable, Arthur Edwin, L.S.A., Tonbridge, Kent.
Langlands, Francis Henry, M.B. Melbourne, Albert-street, N.W.
Martin, Christopher, M.B. Edin., Birmingham.
Mansell, Harry Rosser, L.S.A., Hastings.

The following gentlemen passed the First Professional Examination for the Fellowship in Anatomy and Physiology at a meeting of the Board of Examiners on the 16th inst:—

Francis Edward Albert Colby, student of Cambridge University and St. Bartholomew's Hospital; Arnold William Warrington Lea, M.R.C.S., of Owens College and Royal Infirmary, Manchester; Robt. Walter Doyne, M.R.C.S., of Bristol School of Medicine and St. George's Hospital; Frederick John Fielder, of King's College. (Twelve candidates were referred back to their professional studies for six months.)

Passed on the 17th inst.:—

James Stanfield Collier, student of St. Mary's Hospital; Herbert Willoughby Lyle and Lionel Vernon Cargill, M.R.C.S., of King's College; Frederick Claude Kempson, of Cambridge University and and St. George's Hospital; John Johnston Grace, of Otago University and St. Bartholomew's Hospital; Percival MacLeod Yearsley, M.R.C.S., of Westminster Hospital. (Ten candidates were referred back to their professional studies for six months.)

Passed on the 18th inst:—

Samuel Henry Hughes, M.R.C.S., student of St. Bartholomew's Hospital; William Prior Purvis, M.R.C.S., and Gilbert James Arnold, of St. Thomas's Hospital; Henry Martyn Jordan, M.R.C.S., and Arthur John Sharp, of Guy's Hospital; Charles Byron Turner, of University College; Frederick Ratcliffe Riley, M.R.C.S., of London Hospital. (Nine candidates were referred back to their professional studies for six months.)

Forty-eight candidates presented themselves for the examination, seventeen of whom passed, and thirty-one were referred.

NAVAL MEDICAL SERVICE.—The following gentlemen who competed at the examination held on the 2nd inst. and following days at Examination Hall, Victoria Embankment, for appointment as Surgeons in the Royal Navy, have been successful:—

	Marks.		Marks.
A. W. Sturdee	2869	C. S. Bennetts, B.A., M.B.	2621
E. M. Dobinson	2699	G. Ley	2586
A. G. W. Bowen, B.A., M.B.	2684	W. E. Marshall	2514
R. L. Price, M.B.	2683	M. L. B. Rodd	2500
E. A. Shaw, B.A., M.B.	2670	H. L. Penny	2478
E. Cooper	2669	A. E. Kelsey, B.A., M.B.	2473
C. S. Facey, M.B.	2633	C. J. Fyfe, M.B.	2463

CALLED TO THE BAR.—At a pension at Gray's Inn on Tuesday, George Eugene Yarrow, M.D., L.R.C.P. Lond., medical officer of health for St. Luke's, Middlesex, and surgeon to the City of London Lying-in Hospital, was called to the Bar.

METROPOLITAN ASYLUMS BOARD.—On the 14th inst. the Board agreed to a recommendation included in the report of the North-Western Hospital committee, that the committee be empowered to have a small temporary building erected as a receiving-room for patients suffering from diphtheria, and that an administrative block be erected at the hospital.

ROYAL BRITISH NURSES' ASSOCIATION. — We understand that her Royal Highness Princess Christian, and other members of the Royal Family, have announced their intention to be present at the conversazione of this Association, which will be held on Dec. 4th in the Prince's Hall and the galleries of the Royal Institute of Painters in Water Colours. Her Royal Highness, as President of the Association, will give away the badges of membership to several hundred nurses, and it is expected that more than twelve hundred of the members and their friends will be present. The Great Northern and the London and North-Western Railway Companies have generously promised to give return tickets at greatly reduced fares to nurses who are coming to London for the gathering, and probably other Companies will follow so excellent an example. In addition to the Empress Frederick of Germany, and a large number of eminent medical men who are vice-presidents of the Association, we learn that Princess Louis of Battenberg has recently been elected a vice-president.

BEQUESTS. — Jervis-street Hospital, Dublin, has been left £300 by the late Rev. P. Segrave, and £100 as a bequest from S. H. I.

MR. JOHN GRIFFITHS, M.R.C.S. Eng., L.S.A., has been appointed deputy coroner for the Oswestry district of Shropshire.

THE ROYAL VACCINATION COMMISSION.—Another meeting of this Commission was held on Wednesday, Lord Herschell presiding. Messrs. Ingham, Middleton, and Mills, of Oldham, and Mr. Shuttleworth of Keighley, gave evidence in opposition to the law.

FOOTBALL CASUALTIES.—Whilst playing in a football match at Ilkeston on Saturday, a youth sustained a fracture of the leg.—On the same day, during a football match at Shipley, the centre three-quarter player fractured his collar-bone.

GUY'S HOSPITAL.—The second of the monthly nursing concerts will take place at Guy's Hospital on Tuesday next, when several well-known artistes have promised their services. These concerts fill a long-felt want at the hospital, and the students are to be congratulated on the energy they have displayed in the matter.

TEES PORT SANITARY AUTHORITY.—At a recent meeting of this authority, held at Middlesbrough, under the presidency of Alderman S. A. Sadler, the clerk read a memorial from the Hull Sanitary Authority, praying for the cubical space for sleeping accommodation on board ships to be considerably increased, and asking for better bath and lavatory provision on vessels. After some discussion it was decided to support the memorial.

LITERARY INTELLIGENCE.—We learn that a new serial publication is about to be issued by Mr. Young J. Pentland, entitled the "Journal of Pathology." It will be specially devoted to scientific memoirs on pathological subjects, doctrines of disease actions, general pathology and Bacteriology. The journal will be edited by Dr. G. Sims Woodhead, with the assistance of Dr. Sidney Martin, Dr. M. Armand Ruffer, and others in the special departments of bacteriology, pathological chemistry, experimental pathology, and the collaboration of numerous pathologists at home and abroad.—Dr. Lindsay's "Climatic Treatment of Consumption" has been translated into French by Dr. F. Lalesque, Chef de Service au Sanatorium d'Arcachon. The publisher is M. Octave Doin, Place de l'Odéon, Paris. A translation of the same work into Polish is about to be undertaken by Dr. Neugebaur of Warsaw.

REYNARD HOSPITAL, WILLINGHAM, GAINSBOROUGH, LINCOLNSHIRE.—At a recent meeting of the Board of Management of the Reynard Hospital, Willingham, near Gainsborough, Mr. H. Bendelack Hewetson, F.L.S., of Leeds, surgeon to the eye and ear departments of the Leeds Infirmary, tendered his resignation of the office of honorary consulting and operating surgeon, a post he had occupied during the last nine years. The Board, in accepting the resignation, passed a unanimous vote of thanks to Mr. Bendelack Hewetson for his past services to the hospital. Mr. Hewetson was then elected to the post of honorary ophthalmic and aural surgeon to the institution, and Mr. Harry Littlewood, F.R.C.S., one of the honorary assistant surgeons to the General Infirmary at Leeds, was elected to the post of honorary consulting and operating surgeon, in the room of Mr. Hewetson, resigned.

GENERAL INFIRMARY, STAFFORDSHIRE.—The subscribers to this institution in 1889 resolved that a new hospital should be erected on a new site, and steps be taken to obtain by public subscriptions £5000, the proceeds of the sale of the old infirmary being estimated to make up the balance required for the new building. The public response has almost covered the amount solicited, but from subsequent inquiry it was found that the cost of a model infirmary on a new site would be £15,000 instead of £10,000, the original estimate. Moreover, the site at the Lammascotes, generously offered by Lord Shrewsbury, was distasteful to the Stafford public. The idea of erecting a new infirmary, on a new site, has therefore been abandoned, and an alternative adopted empowering the executive committee to build at first a new pavilion on part of the present site, at an outlay not exceeding £4000, in view of a reconstruction of the whole building by progressive steps.

HOSPITAL FOR SICK CHILDREN, DERBYSHIRE.—This charity continues to grow in utility and in extending the benefits it bestows. The current expenses were £808 13*s.* 8*d.*, showing an excess on the previous year of £138 12*s.* 9*d.*, and the deficiency had increased from £211 13*s.* 3*d.* to £378 2*s.* The receipts from subscriptions and donations were only £529 3*s.* 1*d.*, and less by £440 4*s.* 3*d.* than in 1890. Legacies amounting to £700 had come to hand, against £60 in the previous year.

COUNTY OF SALOP INFIRMARY.—The anniversary meeting of the subscribers was held at noon, on the 12th inst., and was largely and influentially attended. The report showed again a serious decrease in the receipts, the falling off being chiefly in the donations and legacies. There was also a diminution in the annual subscriptions, and the fees received from nurses' services and nurses' training. The decrease in the subscriptions had continued since 1885. Exceptional expenditure had been incurred by internal improvements, and on the year's accounts the balance due to the treasurer was nearly £500. Subsequently a procession was formed, which proceeded to St. Julian's Church, where the annual sermon was preached by the Dean of Worcester. At the conclusion of the service a collection was made, which amounted to £319 8*s.* 8*d.*, against £243 last year.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on November 17th, 1891.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	234	46	..	55	..	335	442
North-Western Hospital	312	50	..	17	3	382	411
Western ,,	113	21	—	12	3	149	224
South-Western ,,	158	28	..	53	2	241	340
South-Eastern ,,	193	14	4	119	3	333	454
Northern ,,	412	34	..	25	...	471	480
Totals	1422	193	4	281	11	1911	2351

SMALL-POX.—*Atlas* hospital ship, 1.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ADAMS, THOMAS RUTHERFORD, M.D., J.P., has been appointed a Consultant Officer to the Croydon General Hospital.

BOWMAN, H. M., M.B., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician to the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, vice W. P. May, resigned.

BROWN, JAS. M., M.B., C.M., F.R.C.P. Edin., has been appointed Assistant Physician to the Royal Infirmary, Edinburgh.

BUNTON, LOUIS C., M.B., B.Ch., B.A.O. R.U. Irel., L.M. Rotunda, has been appointed Demonstrator of Anatomy at the Queen's College, Galway.

CLARKE, H. W., M.B., B.S. Durh., has been appointed Medical Officer for the Fifth Sanitary District of the Chipping-Sodbury Union.

COLLINS, RICHARD HAWTREY, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Obstetrical Officer to the Charing-cross Hospital, vice A. T. Hott.

DEMPSTER, J. H., L.R.C.P., M.R.C.S., has been appointed Assistant House Accoucheur to King's College Hospital, vice J. J. Waddelon, resigned.

DICKINSON, J. C. H., M.B. Camb., L.S.A., has been appointed Medical Officer of the Union Workhouse, Stepney.

DISTIN, HOWARD, M.R.C.S., L.R.C.P., has been appointed Sir J. Lister's House Surgeon at King's College Hospital, vice H. S. Ballance, resigned.

EVANS, WM., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Anglesey United Sanitary Districts of the Anglesey Union.

FITZGERALD, MICHAEL, L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer to the Ballyroan Dispensary District, Queen's County

GARDNER, T. FRED., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to In-patients, Royal Victoria Hospital, Bournemouth, vice J. G. D. Douglas, M.D., resigned.

HAROLD, JOHN, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Registrar to Charing-cross Hospital.

LIPSCOMB, EUSTACE H., M.B., B.C. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Visitor to the Lunatic Asylum, Harpenden.

LIPSCOMB, J. T. N., M.D. St. And., F.R.C.S. Eng., has been reappointed Medical Visitor to the Lunatic Asylum, Harpenden, Herts.

LONGHURST, B. W., M.R.C.S., L.R.C.P., has been appointed Mr. Cheyne's House Surgeon at King's College Hospital, vice J. J. N. Morris, resigned.

LOWSON, GEO., M.B., C.M. Glasg., has been appointed Medical Officer for the Eastern District of the City of Dundee.

MORE-MADDEN, RICHARD ROBERT, jun., L.R.C.P., L.R.C.S. Irel., has been appointed House Surgeon to the Hospital for Children, Temple-street, Dublin.

NAYLOR, R. G., L.R.C.P., F.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Audlem Sanitary District of the Nantwich Union.

PRITCHARD, E. L., M.B., has been appointed Assistant House Physician to King's College Hospital.

REES, HUGH, M.R.C.S., has been reappointed Medical Officer of Health for the Carnarvonshire Combined Sanitary District.

RUSSELL, WILLIAM, M.D., C.M., F.R.C.P. Edin., has been appointed Assistant Physician to the Royal Infirmary, Edinburgh.

SILK, J. FREDERICK W., M.D. Lond., has been appointed Assistant Anæsthetist to Guy's Hospital.

SOMERVILLE, JAS. W., M.B., C.M. Edin., has been appointed Medical Officer of Health for Galashiels, vice Hardesty.

SOUTTER, M. K., M.R.C.S., L.R.C.P., has been appointed Mr. Rose's House Surgeon at King's College Hospital, vice H. S. Sandifer, resigned.

STRONG, HENRY JOHN, M.D., J.P., has been appointed a Consultant Officer to the Croydon General Hospital.

SUTHERLAND, G. A., M.A., M.B., M.R.C.P., has been appointed Physician to the North London Hospital for Consumption.

TYNDALE, W. R., M.B., C.M. Aberd., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Hampton Sanitary District of the Kingston Union.

WADDELOW, J. J., L.R.C.P., M.R.C.S., L.S.A., has been appointed House Accoucheur to King's College Hospital, vice H. J. M. Playfair, resigned.

WHITFIELD, A., L.R.C.P., M.R.C.S., has been appointed House Physician to King's College Hospital, vice T. G. Brodie, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ANCOATS HOSPITAL, Manchester.—Resident Junior House Surgeon. Salary £50, with board and washing.

BISHOP'S STORTFORD UNION.—Medical Officer and Public Vaccinator for the Sawbridgeworth District. Salary offered is £69 per annum, and other fees. (Apply to the Clerk to the Guardians, Bishop's Stortford.)

BICESTER UNION (in the Counties of Oxford and Buckingham).—Medical Officer for the Islip District. Salary £58 per annum, with vaccination and extra medical fees. (Apply to the Clerk to the Guardians, Bicester.)

CHELSEA, BELGRAVE, AND BROMPTON DISPENSARY, 41, Sloane-square, S.W.—Physician.

CHILDREN'S HOSPITAL, Birmingham.—Resident Medical Officer. Salary £80 per annum, with board, washing, and attendance.

CHILDREN'S HOSPITAL, Birmingham.—Assistant Resident Medical Officer. Salary £40 per annum, with board, washing, and attendance.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Board and residence and allowance for washing provided. (Apply to the Secretary, 24, Finsbury-circus, E.C.)

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon. Salary £100 per annum, with board and lodging.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Dental Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury.—Surgical Registrar and Anæsthetist for one year an honorarium of £40 being voted at the expiration of that term.

HULL ROYAL INFIRMARY.—Assistant House Surgeon for one year. Salary £60, with board and furnished apartments.

HULL ROYAL INFIRMARY.—Senior House Surgeon. Salary 120 guineas per annum, with board and furnished apartments.

LONDON HOSPITAL, Whitechapel-road, E.—Medical Registrarship. Salary at the rate of £100 per annum.

METROPOLITAN ASYLUMS BOARD.—Medical Superintendent for the Eastern Fever Hospital, Homerton, N.E. Salary £500 per annum, with unfurnished residence, coals, gas, and washing. (Apply at the chief offices of the Board, Norfolk House, Norfolk-street, W.C.)

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill, Stoke-upon-Trent.—House Physician. Salary £100 per annum, increasing £10 per annum (at the discretion of the committee), with furnished apartments, board, and washing.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill, Stoke-upon-Trent.—Assistant House Surgeon. Board, apartments, and washing provided.

NORTHERN INFIRMARY, Inverness.—House Surgeon and Apothecary. Salary £100 per annum, with board &c.

OWENS COLLEGE, Manchester.—Professorship of Pathology. Stipend £350 per annum, with one-third of the fees paid by students attending the classes of the department.

ROYAL UNIVERSITY OF IRELAND, Dublin.—Assistant Examiners.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at the rate of £40 per annum, with board and lodging.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Assistant Physician.

ST. COLUMB MAJOR UNION.—District Medical Officers and Public Vaccinators. (Apply to the Clerk, St. Columb.)

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Physician.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon for two years. Salary £100 per annum, with board, lodging, and washing.

ST. BARTHOLOMEW'S HOSPITAL, London.—Surgeon.

VICTORIA HOSPITAL FOR SICK CHILDREN, Hull.—House Surgeon. Salary £50 per annum, with board and furnished apartments.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—Resident Assistant for six months. Board, lodging, and washing provided.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months Board and lodging provided.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Surgeon for six months. Board and lodging provided.

Births, Marriages, and Deaths.

BIRTHS.

EVE.—On Nov. 11th, at Harley-street, W., the wife of Frederic S. Eve, F.R.C.S., of a son.

DAWSON.—On Nov. 15th, at Castlegate House, Cockermouth, the wife of Alfred Stanhope Dawson, L.R.C.P. and L.R.C.S. Edin., of a son.

DUCKWORTH.—On Nov. 19th, at 11, Grafton-street, Piccadilly, the wife of Sir Dyce Duckworth, M.D., LL.D., of a son.

HULME-BEAMAN.—On Nov. 6th, at Bedford, the wife of Deputy Surgeon-General Ardern Hulme-Beaman, of a son.

JESSOP.—On Nov. 15th, at Harley-street, W., the wife of Walter H. Jessop, M.B., F.R.C.S., of a daughter.

PUCKLE.—On Nov. 10th, at Bishop's Castle, the wife of Selwyn Hale Puckle, M.B., of a son.

MARRIAGES.

BARTON—WILKINS.—On Nov. 11th, at Christchurch, St. Leonards-on-Sea, by the Rev. C. F. Maude, Rector of Burwash, Sussex, assisted by the Rev. E. Smythe, of Christchurch, St. Leonards, William Edwin Barton, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond., of Staunton-on-Wye, Herefordshire, eldest surviving son of Humphrey Conwell Barton, Esq., of Shoyswell, Etchingham, Sussex, to Lucy, eldest daughter of John Wilkins, Esq., of 114, Cromwell-road, South Kensington, and Las Palmas, Canary Islands.

HICKMAN—COWLAND.—On Nov. 14th, at St. Thomas's, Shepherd's-bush, W. Herbert Vigers Hickman, M.B. Lond. Univ., M.R.C.S., L.R.C.P. Lond., of Wanstead, Essex, second son of the late R. J. Hickman, of Blenheim-crescent, Notting-hill, to Alice Maude, youngest daughter of the late J. D. Cowland, of Lansdowne-road, Notting-hill, W.

DEATHS.

BEATSON.—On Oct. 15th, at Gya, from blood poisoning acquired during the performance of a surgical operation, William Beatson, Surgeon-Major in H.M.'s Indian Army, and Civil Surgeon of the Station in which he died doing his duty, in the 42nd year of his age.

CRAN.—On Nov. 13th, at Broadhurst-gardens, South Hampstead, John Cran, M.D., C.M., formerly of Turriff, Aberdeenshire, aged 53 years.

GODFREY.—On Nov. 16th, at Mansfield, Notts, Thomas Godfrey, M.R.C.S., L.S.A., aged 74.

PAYNE.—On Nov. 9th, at the Midland Grand Hotel, suddenly, Henry Payne, M.R.C.S., second surviving son of the late Rev. Canon Payne, Vicar of Downton, Wilts, aged 42.

ROSS.—On Sept. 3rd, at Durban (Natal), John Ross, M.B., B.Sc. Edin., of King William's Town, Cape Colony, aged 39.

STEUART.—On Nov. 16th, at Fountainhall-road, Edinburgh, William Steuart, L.R.C.P.S.E., formerly of Black Mount, Wiaou, New Zealand, second surviving son of the late Robert Steuart, Esq., of Carfin and Wistwood, aged 49.

TOMLINSON.—On Nov. 14th, at Southfield, Hornsea, Philip Richard Tomlinson, late of Wakefield, M.R.C.S. & L.S.A. London, aged 50.

WEBSTER.—On Nov. 14th, at Alderley Edge, Cheshire, Benjamin Webster, M.D.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

BOOKS ETC. RECEIVED.

ARROWSMITH, J. W., Bristol; and SIMPKIN, MARSHALL, & CO., London.
The Supernatural. By Lionel A. Weatherley, M.D. 1891. pp. 273.

BAILLIÈRE, TINDALL, & COX, King William-street, Strand.
Manual for the Physiological Laboratory. By V. D. Harris, M.D. Lond., F.R.C.P., and D'Arcy Power, M.B. Oxon., F.R.C.S. Eng. Fifth Edition. Illustrated. 1892. pp. 345.

BLACKIE & SON, Old Bailey, London, E.C.
The Dash for Khartoum: a Tale of the Nile Expedition. By G. A. Henty. Illustrated. 1892. pp. 382.
Held Fast for England: a Tale of the Siege of Gibraltar (1779—83) By G. A. Henty. Illustrated. 1892. pp. 352.
Redskin and Cowboy: a Tale of the Western Plains. By G. A. Henty. Illustrated. 1892. pp. 384.
The Pilots of Pomona: a Story of the Orkney Islands. By Robert Leighton. Illustrated. 1892. pp. 352.
Three Bright Girls: a Story of Chance and Mischance. By Annie E. Armstrong. Illustrated. 1892. pp. 288.
Brownsmith's Boy: a Romance in a Garden. By G. Manville Fenn. Illustrated. New Edition. 1892. pp. 383.
Silas Verney: a Tale for Boys. By Edgar Pickering. Illustrated. 1892. pp. 288.

CHURCHILL, J. & A., New Burlington-street, London.
The Organic Analysis of Potable Waters. By J. A. Blair, M.B., C.M., D.Sc. Edin., L.R.C.P. Lond. Second Edition. 1891. pp. 120.
Recent Materia Medica. By F. H. Lescher, F.C.S. Fourth Edition. 1891. pp. 115.

GOVERNMENT PRINTING OFFICE, Washington.
Index-Catalogue of the Library of Surgeon-General's Office, United States Army. Authors and Subjects. Vol. XII., Reger—Shuttleworth. 1891. pp. 1004.

HIRSCHWALD, A., Berlin; and WILLIAMS & NORGATE, London.
Handbuch der Allgemeinen und Speciellen Arzneiverordnungslehre. Bearbeitet von Dr. C. A. Ewald. 1892. pp. 884.
Festschrift, Rudolf Virchow, gewidmet zur vollendung, Seines 70. Lebensjahres. (International Beiträge zur Wissenschaftlichen Medicin.) Band I. to III. 1891.

KEGAN PAUL, TRENCH, TRÜBNER, & CO., London.
Nervous Exhaustion: its Causes, Outcomes, and Treatment. By W. Tyrrell, M.R.C.S. 1891. pp. 122.

LEWIS, H. K., Gower-st, London, W.C.
Outlines of Practical Physiological Chemistry. By F. Charles Larkin, F.R.C.S., and Randle Leigh, M.B., B.Sc. Lond. Second Edition. 1891. pp. 86. Price 2s. 6d. net.

LIPPINCOTT, J. B., COMPANY, London and Philadelphia.
A Manual of Hypodermatic Medication. By Roberts Bartholow, A.M., M.D., LL.D. Fifth Edition. 1891. pp. 540.

LONGMANS, GREEN, & CO., London.
The Lord of Humanity. By F. J. Gant, F.R.C.S. Second Edition. 1891. pp. 168. Price 2s. 6d.

MACLEHOSE & SONS, Glasgow.
Vital, Social, and Economic Statistics of the City of Glasgow, 1885-1891, with Observations thereon. By James Nicol, City Chamberlain. 1891. pp. 447.

MACMILLAN & CO., London.
A Text-book of Physiology. By M. Foster, M.D., LL.D., F.R.S. Fifth Edition. Part IV. 1891. Price 10s. 6d.

OLIVER & BOYD, Edinburgh.
The Transactions of the Edinburgh Obstetrical Society. Vol. XVI. Session 1890-91. pp. 176.

PENTLAND, YOUNG J., Edinburgh and London.
International Clinics. By Professors and Lecturers in the leading Medical Colleges of the United States, Great Britain, and Canada. Edited by J. M. Keating, M.D., Philadelphia, and others. Vol. II. 1891. pp. 356.

PERCIVAL & CO., London.
Leprosy. By George Thin, M.D. 1891. pp. 280. Price 16s. net.

PLON, NOURRIT, ET CIE., Paris.
Traité Clinique et Thérapeutique de l'Hystérie. Par le Dr. Gilles De La Tourette. 1891. pp. 582.

SAMPSON LOW, MARSTON, & CO., London.
My Personal Experiences in Equatorial Africa as Medical Officer of the Emin Pasha Relief Expedition. By T. H. Parke, Hon. D.C.L. (Durh.). With Map and Illustrations. 1891. pp. 526.

SIMPKIN, MARSHALL, & CO., Paternoster-row, London.
A Guide to Grasse. By an English Resident. With Two Maps. 1891. pp. 121. Price two francs.

THE TIMES OF INDIA STEAM PRESS, Bombay.
Report of the Hyderabad Chloroform Commission. With a Preface. By Sir Asman Jah, K.C.I.E., Prime Minister of Hyderabad. 1891. pp. 399.

WARD & DOWNEY, York-street, Covent-garden, London.
The Memoirs, from 1798 to 1886, of Richard Robert Madden, M.D., F.R.C.S. Edited by his Son, Thos. M. Madden, M.D., F.R.C.S.E. 1891. pp. 328.

London County Council: London Water-supply Inquiry; Engineer's Report on the London Water-supply from the Thames and Lea, dated 1st September, 1891 (J. Truscott & Son, Suffolk-lane, London).—La Chirurgie Contemporaine des Organes Genito-Urinaires; par Dr. J. M. Lavaux (November, 1891, Paris).—De la Parésie Analgésique à Panaris des Extrémités Supérieures; De la Paréso-Analgésie des Extrémités Supérieures au Maladie de Morvan; par F. Verchère (Bureau de "Revue des Sciences Médicales," Paris).—The Strand Magazine for November, 1891.—Diagrams of the Mouth, Fauces, and Larynx; for Clinical Purposes (J. T. Balcomb, Southampton-buildings, Chancery-lane, London, 1891); price 1s.—Sewage Farming; by Alfred Carpenter, M.D. (J. Bale & Sons, London, 1891).—Local Government Handy Series, No. 5: The Public Health (London) Act, 1891; Second Edition (S. Edgecumbe-Rogers, London); price 2d.—The Chicago Medical Recorder: Journal of the Chicago Medical Society, September, 1891; New Series (W. T. Keener, Chicago, 1891).—General and Medical Notes of South Africa; by J. Drummond, L.R.C.P. Edin., M.R.C.S. (E. Gould & Son, London, 1890).—Ueber Myositis Syphilitica Diffusa s. Interstitialis; von Prof. Dr. G. Lewin (A. Hirschwald, Berlin, 1891).—Catechism Series: Anatomy; Part V., the Throat; Part VI., Bones and Joints (E. & S. Livingstone, Edinburgh); price 1s. each, net.—Metropolitan Asylums Board Reports for the year 1890 (M'Corquodale and Co., London).

Medical Diary for the ensuing Week.

Monday, November 23.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.
LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Mr. Sydney H. Jones: Pathological Demonstration, Surgical Specimens.—Royal London Ophthalmic Hospital, Moorfields: 1 P.M., Mr. W. Lang: Diseases of the Iris.—Great Northern Central Hospital: 8 P.M., Dr. Galloway: Cardio-Vascular System.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Evening. Mr. W. F. Haslam: Case of Excision of the Elbow for Injury.—Mr. J. H. Morgan: Two cases of Trephining of the Skull where portions of bone were replaced.—Mr. D. H. Goodsall: Two cases of Opening the Cæcum for Obstruction.—Dr. Seymour Taylor: A case of Complete Transposition of Viscera.—Mr. S. Watson: A case of Naso-pharyngeal Polypus.

Tuesday, November 24.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M., Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M. Mr. J. Hutchinson: Morphœa and Sclerodermia.—Bethlem Hospital: 2 P.M., Dr. Theo. B. Hyslop: General Paralysis of the Insane.
ROYAL COLLEGE OF PHYSICIANS (Examination Hall, The Savoy, W.C.)—5 P.M. Dr. Burdon-Sanderson: The Progress of Discovery relating to the Origin and Nature of Infectious Diseases. (Croonian Lecture.)
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Mr. Lawson Tait: On the Occurrence of Pleural Effusion in association with Disease of the Abdomen.—Mr. D'Arcy Power: An Analysis of Sixty-three cases of Ununited Fracture occurring in the Long Bones of Children. Mr. C. B. Lockwood will exhibit a Dissected Specimen of Ununited Fracture of the Tibia and Fibula in a Child.
THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Prof. A. Wynter Blyth: Sanitary Law, English, Scotch, and Irish—General Enactments; Public Health Act, 1875; Model By-laws, &c.
ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.—8.30 P.M. Mr. H. M. Barber: Perforated Stones of South Africa.—Mrs. S. S. Allison: Notes on the Indians of the Simílk'ameen.

Wednesday, November 25.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. R. Maguire: Anæmic Murmurs.—Royal London Ophthalmic Hospital: 8 P.M., Mr. A. S. Morton: Ocular Paralysis.
SOCIETY OF ARTS.—8 P.M. Prof. S. Thompson: Measurement of Lenses.
HUNTERIAN SOCIETY.—8.30 P.M. Special Discussion on Albuminuria with reference to Life Assurance. A paper will be read by Dr. Hingston Fox. Sir Wm. Roberts, Dr. Pavy, Dr. Pye-Smith, Dr. Maguire, Mr. C. Lucas, and others, will take part in the discussion.

Thursday, November 26.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.
LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Dr. Hadden: Selected Medical Cases from the Out-patient Department.—National Hospital for the Paralysed and Epileptic: 2 P.M., Dr. Ormerod: Paraplegia.—London Throat Hospital, Great Portland-st.: 8 P.M., Dr. Whistler: Phthisis of the Larynx.
ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. Allchin: Duodenal Indigestion. (Bradshaw Lecture.)
BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Dr. Purcell: Shelling the Uterus for Cancer, with Specimens by Dr. Edis and Mr. Jessett. Report on Cirrhosis of Ovaries, with Microscopical Specimens.
HARVEIAN SOCIETY OF LONDON.—8.30 P.M. Dr. Goodhart: Common Neuroses.

Friday, November 27.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
BRITISH LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION (11, Chandos-street, Cavendish-square, W.).—2 P.M. General Meeting.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. R. Maguire: Dilatation of the Heart.—Bacteriological Laboratory, King's College: 11 A.M. to 1 P.M., Professor Crookshank: Suppuration, Erysipelas, and Tetanus (Streptococcus Pyogenes and S. Erysipelatosus).
CLINICAL SOCIETY OF LONDON.—Living Specimens at 8 P.M.:—Dr. Abercrombie: A case of Xanthoma Multiplex.—Mr. Bernard Roth: A case of Lumbo-sacral Spondylolisthesis in a Man.—Mr. W. H. Bennett: A case of increasing Unilateral Hypertrophy of the Lower Jaw in a Girl aged twenty-four.—Mr. C. Mansell Moullin: A case of Charcot's Disease involving the Tarsus. Papers at 9 P.M.:—Dr. Lee Dickinson and Dr. W. K. Fyffe: Some cases of Albuminuria.—Mr. W. G. Spencer: Sequel of a case of Traumatic Aneurysm.—Mr. W. Anderson: A case of Extroversion of Bladder.
THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Prof. A. Wynter Blyth: Sanitary Laws and Regulations governing the Metropolis.

Saturday, November 28.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. Theo. B. Hyslop: General Paralysis of the Insane.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 19th, 1891.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Nov. 13	29·09	S.W.	49	48	69	54	43	·22	Raining
,, 14	29·27	S.E.	45	44	74	53	43	·02	Hazy
,, 15	29·15	S.E.	47	46	..	50	45	.	Foggy
,, 16	29·37	S.W.	47	47	..	50	47	·13	Raining
,, 17	29·77	W.	45	44	62	53	44	·04	Raining
,, 18	30·03	S.W.	44	42	..	57	42	·15	Raining
,, 19	29·96	S.W.	56	54	64	58	44	·04	Overcast

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

DIRECT REPRESENTATION: THE RIGHTS OF VOTERS.

Dr. Rentoul sends us a correspondence with the Privy Council too long to publish. It was meant to elicit an answer from the Lord President as to whether Dr. Rentoul would be within his rights in voting cumulatively—i.e., instead of voting for each of the three candidates required, giving all three votes to one candidate. The reply of the Lord President is that this is a legal question, which could only be authoritatively settled in a court of law; that any answer of his lordship would have no validity, but that it was *not intended* to give a cumulative vote. Dr. Rentoul suggests that a subscription be raised to try the point in a court of law. Meantime those who do not wish to waste their votes will do well not to cumulate.

L.R.C.P.—The validity of the agreement depends on the consideration received for the promise.

Dr. J. C. Pearson (Aberdeen).—The paper will appear very shortly.

"DISCLOSURES OF A MEDICAL MAN."

To the Editors of THE LANCET.

SIRS,—I was extremely pleased to read your remarks concerning the article, "Disclosures of a Medical Man," in a well-known lay paper. Until that article appeared I had always looked upon that paper as conducted in a fair spirit, but when I wrote a letter challenging the position of the author, almost word for word as your remarks,

it was simply ignored, and the statement which had been circulated, probably among thousands, allowed no denial. Now, Sirs, what will many think, even if they do not say it? Why, nobody can be found to deny them, because the statements must be true! If the author has the courage of his opinions, let him disclose himself, then we shall be the better enabled to judge of the value of his opinions, or at any rate, let us have some proof that he is a qualified man, and quite satisfy us that it is only his misfortune that, after thirty years, &c., he can only command 10s. and a room per week. Medical men have much to put up with nowadays, but to be slandered in such a way, and to be allowed no opportunity of refuting such calumnies, is to bring into great discredit the paper in which such articles are allowed to be printed; and I consider it only right that the whole profession should decline to have anything more to do with such a paper. There are very few people who, having lived a certain number of years, have not at some time in their lives had great cause to be grateful to their doctors; and there is much we can and do do, that mere money cannot recompense. But there are people, I am sorry to say, who very quickly forget the hands who conferred the benefits. The editor of that paper should translate "Audi alteram partem" before allowing himself to become a cloak to a purveyor of sensational trash. I believe there are still countries left where the old-fashioned bravo flourishes and can be hired to stab in the dark, but previously imagined they—the bravos—had quitted England.—I am, Sirs, yours faithfully,

Nov. 7th, 1891. PHYSICIAN AND SURGEON.

THE LOST ORB.—AN ELEGY.

To the Editors of THE LANCET.

SIRS,—It was necessary somewhat unexpectedly to remove the right eye of a gentleman on Sept. 20th. On Oct. 8th he wrote the following reminiscences, which may interest your readers. Yours truly,

November, 1891. J. T.

Two neighbours, born under the same roof, and who lived next door to each other for more than half a century, were like brothers. They never fell out. Where one went the other went. They visited all the great sights of the world together, and yet, strange to say, they never saw one another. After many years one fell ill, and had to leave the neighbourhood. But what prevented their seeing one another? Only *one* nose! But here are their adieux:—

Farewell! dear partner of my days,
'Tis hard to say "Good-bye";
We never turn'd to different ways,
We both saw eye to eye.

For years and years we jogged along,
We pitied or we praised;
We wept, or laughed a merry song,
Oft pleased and oft amazed.

I go. Farewell! to stay with thee
Would not promote thy peace;
Now, thou alone wilt better be,
Let all complaining cease.

Cheer up; some service thou may'st see,
Some visions of delight!
Before thou com'st to share with me
The unillumined night.

The Neighbour's Response.

I see, I see, it must be so.
'Tis sad to say "good-bye";
Chide not the tear that fain would flow,
It falls! And Oh! Mihi!

And yet thy words my hopes inspire,
That there is good in store;
Suggesting with prophetic fire
A future to explore.

Rest, dear old friend, and look I will,
As long as eye can see,
To serve my master well, until
I rest in peace with thee.

A Senior Fellow.—We would draw the attention of our correspondent to the fact that it was the first application of the plan of treatment for removal of foreign bodies from the urethra to which reference was made, and not to their removal from the rectum. It is possible that the idea was obtained from the passage to which he makes reference; but of this we have no evidence, and must therefore give credit to the gentleman mentioned.

Dens.—It is on all hands admitted that advertising by medical men is derogatory to the profession, and the rule applies to those practising dentistry, whether medical practitioners or not. The fact that some advertise is a poor excuse; and, we believe, in the long run, those who do not thus violate professional decency are the gainers both pecuniarily and socially.

SURGEONS' POCKET CASES.

To the Editors of THE LANCET.

SIRS,—Referring to Messrs. Allen and Hanburys' letter in your issue of the 7th inst., permit us to again draw their attention to the number of THE LANCET mentioned in our previous communication, from the illustration in which they will observe that the construction of their pocket case is practically identical with that of ours, which contains no fewer instruments. The case they advert to is another of our manufacture. We are, Sirs, yours truly,

Birmingham, Nov. 16th, 1891. SALT AND SON.

POISONING BY JEQUIRITY SEEDS.

It is stated usually that these seeds are innocuous when taken internally, although an infusion of them causes great irritation to a mucous membrane or to the subcutaneous cellular tissue. Dr. W. S. Barnes of British Guiana, however, writing in the annual medical report of that colony, states that he was called in March last to see a patient who was vomiting and purging severely. He was rather exhausted and pallid, and complained of cramps and pains in the limbs, especially the legs. Being a sensible patient he was able to tell Dr. Barnes that whilst working in the field in the afternoon he picked some jequirity seeds (as he called them, "gamchi"), and chewed them. About six hours later the vomiting and purging commenced. These symptoms lasted for about twenty-four hours, the cramps and pains continuing during the next day. To make certain of the seed, Dr. Barnes made the patient describe it, and afterwards identify it. He had taken nothing else during the day of his attack beyond the ordinary diet.

Dr. R. F. Sinclair.—Amongst the best recent German works on the eye are (1) Vossius' "Grundriss der Augenheilkunde," 1888, pp. 466 (Leipzig: Franz Deuticke); and (2) "Lehrbuch der Augenheilkunde," Ernest Fuchs, 1889, pp. 798 (Leipzig: Franz Deuticke).

Enquirens.—The qualification in question certainly does not carry a right to the title of Doctor. A licentiate examined under the Act of 1886 is qualified in surgery.

Delta.—The usual medical attendant will answer the question.

CONSULTANTS AND GENERAL PRACTITIONERS.

To the Editors of THE LANCET.

SIRS,—Among the many complaints ventilated in THE LANCET, I would point out the very objectionable conduct of many of the London consultants. A general practitioner sends a patient up to town, advising him to see a specialist or consultant, as the case may be, giving him a letter of introduction. The consultant prescribes for the patient, giving the patient the prescription instead of sending it to the medical man. The patient, in most cases, takes the prescription to a chemist, and the dispensing general practitioner is at a considerable pecuniary loss. I would propose, where such conduct takes place, that the name of the consultant be published, and he will doubtless find boycotting a sufficient check upon "repetition of such unjust and selfish conduct." I wrote a short time since to a well-known London consultant, asking him to send me his prescription. I got a letter from him giving his diagnosis, which was the same as my own, and the patient showed me the prescription, which he has continued to get made up at a chemist's, and which is almost identical with mine. Need I say this consultant will never get an opportunity, if I can help it, of so acting to me again, and his name and conduct will be repeated by me to every medical man of my acquaintance. I am, Sirs, yours truly,

Nov. 18th, 1891. FAIRPLAY.

PYOKTANIN IN DISEASES OF THE UPPER AIR-PASSAGES.

IN nasal surgery unexpected constitutional symptoms occasionally present themselves that we recognise as due to septic poisoning, and we must acknowledge the necessity of an effective antiseptic. Boric acid, antipyrin, bichloride of mercury, iodoform, iodol, aristol, peroxide of hydrogen, and others have been used; but Dr. Lincoln, in the *New York Medical Journal*, strongly recommends pyoktanin or methyl-violet. Its disadvantage is its staining quality, but this can be avoided on exposed parts by exercising reasonable care. It may be used from the full strength down to a weak solution without unpleasant consequences, and can be applied by spray, by lint saturated with a solution, in the form of an ointment, as a powder, or by crayon.

Mrs. K. B. Sharman is thanked for her communication. We have from time to time referred to the subject in general, and also to the particular aspect of it with which her letter deals. We concur with our correspondent in thinking that the writer alluded to does not sufficiently consider the subject from the physiological standpoint, which is of vital importance.

Mr. F. J. Lander.—The title has been much discussed. "Westminster" is obviously much too local a name for a University embracing Colleges over the whole of the London area, and "Victoria" has already been appropriated by the Colleges of Manchester, Liverpool, and Leeds.

THE LATE DR. HENRY BENNET.

To the Editors of THE LANCET.

SIRS,—A committee, of which I am the chairman, has just been formed here to raise a memorial to the late Dr. Henry Bennet, who has done so much to promote the prosperity and welfare of this winter resort. The memorial will take the form of a public drinking-fountain. Mr. Charles Palmaro, H.B.M.'s Vice-Consul in Mentone, will kindly act as treasurer. I think that many of Dr. Bennet's friends, especially those who have spent some weeks in this town, will gladly join in this mark of gratitude to him. I shall therefore be much obliged if you will kindly insert in THE LANCET some notice of our intentions. I am, yours truly,

Mentone, Nov. 17th, 1891. J. L. SIORDET.

A MEDICAL MAN FINED FOR A FALSE CERTIFICATE.

AT the Manchester City Police Court Mr. Richard Davies Barre Gunn, L.R.C.P. & L.R.C.S.Edin. and L.F.P.S.Glasg., of Grove Mount, Fairfield-rd., Droylsden, who has a branch establishment in Gibson-street, Ardwick, was lately fined £10 and costs, according to a report in the *Manchester Courier* of Nov. 14th, for issuing a false certificate of death in the case of a child named William Hone. The mother went to Gibson-street, where she saw the defendant's unqualified assistant, who attended the case till death. The Superintendent Registrar prosecuted. He said the certificate was signed by the defendant, but was filled up by the assistant, who had disappeared. He pointed out how reprehensible the practice was, and how it deceived the poor.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Allchin, London; Dr. Althaus, London; Mr. W. Anderson, London; Mr. T. B. Browne, London; Dr. H. P. Berry, Grantham; Messrs. Boake and Co., London; Dr. Bateman, London; Capt. Blount; Messrs. Bentley and Son, Sheffield; Dr. Blake, London; Mr. Barton, Burwash; Dr. A. Carpenter, Croydon; Mr. Croft, London; Mr. Chaffers; Mr. Bruce Clarke, London; Dr. Costelloe, Southampton; Messrs. Carnrick and Co., Bloomsbury; Mr. Collins, St. Columb; Mrs. Campbell, London; Dr. Crook, Margate; Dr. Churton, Leeds; Mrs. Collier, Sussex; Mr. Conant, Chicago; Mr. Cheatle, London; Mr. Davis, London; Mr. A. Duke, Dublin; Dr. Duka, London; Mr. Dewar, Manchester; Dr. C. Dukes, Rugby; Mr. H. Distin, London; Messrs. Deacon and Co., London; Mr. Earle, Brighton; Mr. Eames, Notts; Sir J. Fayrer, London; Mr. G. Foy, Dublin; Mr. Finzi, London; Dr. G. Fleming, St. John's; Miss Faulkner; Major Fraser, Westgate-on-Sea; Dr. H. Fox, London; Dr. Fleming, Edinburgh; Dr. S. Felce, London; Dr. Goodhart, London; Dr. Griffith, London; Mr. Grün, Putney; Mr. Gregson, Southend; Mr. H. B. Hewetson, Leeds; Messrs. Hooper and Co., London; Professor Huxley, Eastbourne; Messrs. Hertz and Collingwood; Mr. Hunt, Manchester; Dr. J. F. Horne; Mr. A. W. Hull, London; Dr. B. Howard, Tokio; Mr. B. Hamilton; Mr. G. A. Hunt, Hornsey; Mr. Hornibrook, London; Mr. Hughes, Birmingham; Mr. G. Horder, Cardiff; Mr. Hemming, London; Dr. Illingworth, Clayton; Mr. Jones, Llangollen; Mr. Jones, Bournemouth; Mr. Johnson, Broughton; Dr. Koehler, Mentone; Messrs. Kelly and Co., London; Mr. Large, Suffolk; Dr. Little, London; Messrs. Lee and Nightingale, Liverpool; Mr. Larkin, Liverpool; Messrs. Lloyd and Co., Leicester; Mr. Littlewood; Dr. Lambart; Dr. Lemont, Newcastle-on-Tyne; Mr. Lauder, Middlesbrough; Messrs. Macmillan and Co., London; Dr. Menzies, London; Mr. Macdowall, London; Dr. More Madden, Dublin; Mr. G. Mackeson, London; Herren Otto Maas und Sohn, Wien; Dr. D. Mowat, Stamford-hill; Mr. McDowall, Crouch End; Mr. A. Meeker, London; Dr. R. Neale, London; Messrs. Kegan Paul and Co.; Mr. Pearson, Aberdeen; Mr. Preston, Sheffield; Mr. Pimm, London; Dr. Rentoul; Mr. O. Pemberton; Messrs. Robertson and Scott, Edinburgh; Mr. Robinson, Sheffield; Mr. E. R. Rouse, New Southgate; Mr. Richardson, Staplehurst; Messrs. Richardson and Co., Leicester; Dr. G. Steell, Manchester; Messrs. G. Street and Co., London; Dr. Siordet, Mentone; Mr. G. Stoker; Messrs. Salt and Son, Birmingham; Mrs. Sargent, Eastbourne; Mr. Stilliard, Birmingham; Mr. Spencer, Basford; Mr. Turrell, Oxford; Mr. Teichelmann, London; Dr. L. G. Thompson, Launceston, Tasmania; Mrs. Trotter, Trowbridge; Mr. D. Ll. Thomas, London; Mr. Turnbull, Newcastle-on-Tyne; Dr. Tomlinson, Hornsea; Dr. Urquhart; Dr. Wyatt, Stoke Newington; Mr. Woodyatt, Halifax; Dr. H. Watson; Messrs. Wright and Co., London; Mr. White, Wolverhampton; Mr. Wolstenholme, Abergele; Professor Walley, Edinburgh; Dr. M. C. Ward, Twickenham; Mrs. C. J. Wood, London; Mr. G. W. Whiteley, Downton; Mr. S. Yeoman, Morpeth; Dr. Zangger, St. Moritz; L.S.A., 1890; A Country Practitioner; Delta; Felix, London; Junior, London; Clerk, Fareham Union; Fido, London; L.R.C.P., London; N., Fleet-street; Kent and Canterbury Hospital; Dr., Bucks; X. Y. Z., London; Sanitary Wood Wool Co., London; Phonetic, London; Dens; Hackney Furnishing Co., London; Secretary, North Staffs Infirmary; Fairplay; Hereford General Infirmary; Ancoats Hospital, Manchester; Johannis Spring Co., London; Fiat Justitia; A Student.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Thomas, Newport; Mr. Deane, Lincoln; Mr. Scott, London; Messrs. Mason and Co., London; Mr. Philip, Ashton-under-Lyne; Messrs. Ross and Co., Belfast; Mr. Newman, London; Mr. Frost, London; Mr. Luke Freer, Llandudno; Mr. J. Court, Chesterfield; Dr. Tomlinson, East Yorks; Mr. Salter, Halifax; Mr. Forward, London; Messrs. Benson and Co., London; Professor Struthers, Edinburgh; Professor Burdon-Sanderson, Oxford; Mr. Davies, Newport; Mr. Croly, Rochester, New York; Dr. Cuthbert, Cornwall; Dr. Moorhead, Notts; Messrs. Eason and Son, Dublin; Mr. Jacobs, Chesterfield; Messrs. Rowntree and Co., London; Dr. Bourke, Earl's-court; Dr. Thomson, Romford; Mr. Cameron, Dewsbury; Mr. Fisher, Workington; Mr. Davies, Ebbw Vale; Mr. Pratt, Darlington; Mr. Stenton, Oxford; Messrs. Godfrey and Cooke, London; Mr. Salway, Dartmouth; Messrs. Ferries and Co., Bristol; Mr. Considine, Clare; Messrs. Mordon Bros., Bishop Stortford; Dr. Harley, London; Dr. Spicer, London; Messrs. Bonthron and Co., London; Dr. Vogelsang, Altrincham; Messrs. Robbins and Co., London; Mr. Sullivan, Cork; Mr. Sievers; Mr. Blaine, South Africa; Mr. Morton, Wingham; Mr. Norman, Criccieth; Mr. Tyte, Minchinhampton; Mr. Lawrence, Barnstaple; Mr. Dawson, Cockermouth; Dr. Boreham, Torquay; Mr. Steward, Glasgow; Mr. Horne, Scarborough; Mr. McClean, Walthamstow; Mr. Gilyard, Bradford; Dr. Waters, Liverpool; Dr. Barton, Eastbourne; Messrs. Smith and Son, Birmingham; Mr. Heywood, Manchester; Mr. Woodcock, Bradford; Mr. Davis, Ivybridge; Mr. Evans, Llanberis; Mr. Evered, Storrington; Dr. Norman, co. Limerick; Mr. Sell, London; Dr. Michael, London; Mr. Parry, Bangor; Mr. Leatham, co. Tyrone; Dr. Farley, Clones; Mr. Warde, Yalding; Mr. Monks, Wigan; H., London; Lady Superintendent, Burton-on-Trent; Eucalyptus, London; Ashwood House, Kingswinford; Glo'ster, London; Rus, London; Nottingham Borough Asylum; Nemo, London; Memphis, London: St. Mungo's College, Glasgow; Cœlebs, London; Statim, London; Medicus, Bury St. Edmunds; A. W., Yorks; Medicus, Bournemouth; Arger, West Hartlepool; Medicus, Liverpool; W. F., Rochdale; Secretary, Devon and Exeter Hospital; Nucleus, London; Essex, Leicester; Sanitas Co., London; G. L., London; B. M., London; Secretary, Derbyshire Royal Infirmary; J. B., Liverpool; L. T., London; Secretary, College of State Medicine, Bloomsbury; Genuine, London; Secretary, West Herts Infirmary, Hemel Hempstead; Madeira; Secretary, Yorkshire College, Leeds; Secretary, Royal Infirmary, Hull; Secretary, Kent Insurance Co., Maidstone; V. C., London; Secretary, Royal United Hospital, Bath; Suburb, London; Secretary, School of Medicine, Edinburgh; Secretary, National Dental Hospital, London; B. H., London; Secretary, General Infirmary, Staffs; Secretary, School of Medicine, Sheffield; Beta, London; Village, London; Immediate, London; Yarra, London; Medicus, Margate; Viator, London; A. S., London; Cornwall, London; T., Liverpool; Amicus, London; Oyez.

NEWSPAPERS.—*Lymington and South Hants Chronicle, Hertfordshire Mercury, Windsor and Eton Express, Weekly Free Press and Aberdeen Herald, Mining Journal, Surrey Advertiser, Reading Mercury, Local Government Chronicle, Windsor and Eton Gazette, Insurance Record, Liverpool Daily Post, Scottish Leader, Leeds Mercury, Yorkshire Post, Bristol Mercury, City Press, Scotsman, Chemist and Druggist, Sunday Times, Builder, Metropolitan, Architect, Broad Arrow, Spectator, West Middlesex Standard, Saturday Review, Dundee Advertiser, Birmingham Gazette, West Middlesex Advertiser, Glasgow Herald, Manchester Courier, Law Journal, Toronto Mail, Pharmaceutical Journal, Times of India, Echo, Herald (London), Health, Leicester Mercury, Madras Weekly Mail, Sussex Daily News, Le Temps (Paris), Islam (Calcutta), Hereford Times, Bedfordshire Standard, Bognor Observer, Worcester Journal, Northern Whig, Kettering Leader, Erith Times, Night and Day, Eastern Daily Press, Tribune (New York), Hastings Advertiser, Leigh Chronicle, Radcliffe Express, Western Mail, Slough Observer, Glossop Times, Lynn Advertiser, Tit-Bits, Driffield Times, Devizes Gazette, Pictorial World, &c.*, have been received.

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